THE JOURNAL
of the
OKLAHOMA STATE MEDICAL ASSOCIATION

EDITORIALS

THE OKLAHOMA ACADEMY OF GENERAL PRACTICE

On April 16-17, this organization holds its Annual Meeting in Enid, Oklahoma. It is difficult to estimate the importance of this meeting. Already it may be said that the following assignments on the program are assured: Edward C. Reifenstein, Jr., M.D., Director of the Oklahoma Medical Research Foundation and Hospital; Robert Crossen, M.D., St. Louis, who specializes in obstetrics and gynecology; and Richard Sutton, Jr., M.D., Kansas City dermatologist.

The intellectual load will be lightened by a dinner dance with an outstanding after dinner speaker spiked with humor.

What a happy combination for the hard pressed modern general practitioner. The practice of medicine is serious business but it is best pursued by those who possess a wholesome appreciation of humor. Two of the world's outstanding literary characters, Shakespeare and Cervantes, were also the world's greatest humorists. Like physicians, they probed the tragic depths of human character and experience always coming up with a saving sense of humor.

OKLAHOMA RESEARCH CONSCIOUS

The one million dollar Research Institute crowning the efforts of the Oklahoma Medical Research Foundation is now humming with activity. While there is still much to be accomplished before it is fully staffed and adequately launched upon its promising career, it is gratifying to note the present evidences of concerted effort and decided progress.

This institution stands as a shining monument to the vision of a yet unspoiled citizenry endowed with the spirit of freedom and the gift of personal initiative. This monument is an expression of unhampered humanitarian impulses mounted on the wings of commendable curiosity backed by small donations of hard earned cash with the hope of discovery for the benefit of humanity. Such a beneficent undertaking with the blessing of voluntary participation could never raise its head in a welfare state. In addition to its contributions to the human physical weal it will help to keep Oklahoma free.

For the people and the profession of Oklahoma the Institute opens its doors and begins work at an auspicious moment in the course of medical progress. At the present time the major lifesaving advances are coming from the laboratory but not without the cooperation of clinical medicine. Wisely the Institute is being tied in with the medical school and the University Hospitals in order that medical education, scientific investigation and clinical practice may be advantageously integrated. In other words the Research Institute must be the link between "pure" science and "applied" science in the field of medicine. With this even more specifically in view the Institute is now speeding construction on the 20 bed hospital unit specifically designated for the integration of pure and applied science. It is to be hoped that this unit may be enlarged as need is sure to demand.

The physicians of Oklahoma may well be proud of what they and the people have conceived and accomplished. It is our belief that they have builded better than they know.

STUDENT AMERICAN MEDICAL ASSOCIATION

In a news release from the A.M.A. we find notice of the organization of the Student's American Medical Association. The organization was effected at a meeting in Chicago attended by delegates from 48 medical schools with an enrollment of 15,855.

Steps are underway to stimulate the formation of student academic societies as components of the newly organized organization. The officers and student councilors are elected by the students and senior councilors are to be named by the A.M.A. The president and vice-president are to sit in the A.M.A. House of Delegates.

Let us hope that the enthusiasm of youth may be incorporated with wisdom and that medical education may profit by this hopeful adventure.

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CUSHING COMES TO OKLAHOMA

At the last meeting of the American Hospital Association, which convened in Atlantic City, our young friend, Russell N. Tucker, Administrator, Hilo Memorial Hospital, Hilo, Hawaii, having traveled from the tropical isles of the Pacific, plucked a number from a lottery box offering each participant a chance at the life size bronze bust of Dr. Harvey Cushing by Max Kalish.

Weeks after Russell had casually turned in his number, the Seamless Rubber Company, sponsor of the plan, flashed the news across the continent of his success. In Hilo, when congratulations and rejoicing gave way to serious cogitation, Russell and Jane, the latter one-time Editorial Assistant to the writer in the Journal office, put their loyal heads together and decided that the bust of Harvey Cushing should forever repose in the rotunda of the Research Institute in the atmosphere of scientific investigation so in keeping with the subject's remarkable career. The decision of the Foundation's benefactors traveled from the Isle of Hilo to the Seamless Company on the Atlantic seaboard and the bust was transported to Oklahoma. As a result, Cushing stands in the chaste foyer of the Institute only two blocks away from the home of one of his most famous patients. The picture of this patient at three years of age was taken after operation at Peter Bent Brigham Hospital in Boston and it decorates the jacket of the John F. Fulton biography of Harvey Cushing.

With interest to the readers of the Journal it may be added that the identity of the picture was discovered by Dr. Walter H. Dersch, neighbor and friend of the family when our own Dr. Harry Wilkins presented the biography to Doctor Dersch for perusal. Months after the patient returned from Boston it became obvious he had suffered a recurrence and that Cushing was magnanimous enough to assure the distraught parents that the young brain surgeon (Dr. Harry Wilkins) in Oklahoma City could handle the recurrence as well as he could and that they might as well forego the long journey and the unnecessary expenditure of energy, time and money. What a fine tribute this is to a great man who with all his eccentricities kept the patient's welfare at heart and his young colleague's interests in mind. To Russell and Jane Tucker, on behalf of the Oklahoma Research Foundation and the members of the medical profession of Oklahoma, the writer extends abiding gratitude.

COUNTY MEDICAL SOCIETIES AND PUBLIC RELATIONS

It is good to have public relations committees but the best public relations, now sadly neglected, are to be found in the patient-physician relationship. After the committees have told Chambers of Commerce, civic and federated clubs what medicine has done, the future of medicine still hinges upon what medicine is doing in the home, at the clinics and in the hospitals, upon the way the individual physician meets the needs of the individual patient.

The officers of county medical societies, their boards and committees, should develop a comprehensive plan to make available prompt, competent medical care for everyone regardless of socio-economic status.

If the public could be convinced that county medical societies were committed to such a plan including complete public health coverage in the field of preventive medicine, no doubt adequate financial support would be forthcoming.

Francis Bacon once said, "every man is debtor to his profession". Today we must realize that every member of the medical profession is first debtor to his patients. When this debt to both the rich and the poor is universally recognized and duly paid, socialistic rabblerousers with their poisonous propaganda will be silenced.

It is a good time for newly elected county medical society officers and their committees to give serious consideration to these possibilities and to get on with their responsibilities.

Appropriate publicity should make known to everybody that such care is available for every individual either through the doctor's office or some volunteer or public health agency and that costs will be adjudicated according to the patient's ability to pay, ranging from nothing to reasonable fees with never a hardship or a heartache. Through a broad understanding and generous cooperation between the profession and the people, such a service could be developed with profit and satisfaction to all concerned.

Failing to realize that we are living in a new world with a brand new mass psychology and deferring the adjustments necessary to meet the new demands—may result in our ultimate ruin. Of all groups and agencies the medical profession should be able to show a bit of sanity in a world of lunacy.

LEST WE FORGET

While going through old papers I ran across a letter from Herr Kiehaupt who had grown old coaching American doctors in the use of medical German at the University of Vienna. This letter was written soon after World War I and as shown by the following paragraphs, it is ironically revealing, and should again remind us not to attribute all our troubles to World War II. Obviously he was suffering from the poverty and the intellectual depreciation resulting from the partitioning of Austria, the depletion of Vienna's resources and the fateful influence of the prevailing socialistic trends.

"Through the kindness of Dr. Reed who has sent me your address I am this year able to send you and your worthy family my sincere holiday greetings. Many years have passed since the time when I had the pleasure of instructing you . . ., and yet do these times seem near enough to grasp, so animated are my memories of our instruction hours . . . The disease of our time, Bolshevism, has also caught hold in Vienna. Everywhere the germs have been scattered, into England (coal miner's strike), into Central America, into China and Australia. Here in Austria it has found an especially fertile soil and is constantly spreading and gaining in strength. Everyone runs to the red apostles of the new religion of Lenin's and especially the women number among the most inspired followers for the new theorem. Even the grand-daughter of the Kaiser, Arch-Duchess Elizabeth, Princess of Windischgratz, has become revolutionist-socialist, has renounced all titles, and has stuck the red rose in her lapel. There is no communistic assembly from which she is absent. Vienna is not prospering under the blue star of Bolshevism. Industry is constantly going backwards and the number of unemployed at the same time going forward. The mental workers are especially bad off, and to give *one* example, here in Vienna among the practicing physicians, *one thousand* are unable to buy enough bread for themselves, wives and children out of their professional earnings, and must therefore seek side earnings. One fears that many university professors will leave Vienna and go where richer laboratories and other teaching facilities are offered. So has our famous Professor of Medicine Physiology, Dr. Duhrig, made the resolution to emigrate to the Berlin University because here they *will not* or *cannot* provide the necessary means for the execution of his research work".

In the light of what has happened, I wonder what this old philosopher would think today.

Our own best statesmen must be puzzled over our rapid pace toward the so-called "Four Freedoms". In the minds of all who think, our socialistic trend creates fear and threatens the one and only freedom — individual liberty which is essential for the preservation of our government and our souls.

OUT OF WASHINGTON

It behooves all citizens to read with care and discrimination the directives, documents and declarations coming out of our washed out Washington these days. They come from the anemic personnel of wavering agencies seeking to perpetuate office and employment by the purchase of your birthright through the promise of something without an equivalent in return. Insidiously Rome was bought and sold in the same manner. Will we never learn? In the story on my library shelf not three feet away Gibbon labored long and hard on the Decline and Fall. I thank God every day for the six formidable volumes because of the knowledge they contain and the warning they significantly place before me. Would it make any difference if the author incarnate could stand in Washington today and put into words what he has written. The old Greek Poet and philosopher, Zeno, who received the following answer when he inquired of the Oracle at Delphi about a manner of living, "You should inquire the dead," also was preparing a warning for us individually and collectively as a profession and as a government. Must we die before we learn. Shall we continue to accept the poisonous potions coming out of Washington in small doses which ultimately yield to no antidote. At present the sugar coated dose under the guise of a national emergency is subsidy for the medical school. Why not support our medical school with our own money which can be applied 100 cents on the dollar, and keep it free from government control. Only in this way can the people of Oklahoma be reasonably sure of good doctors and the best of medical care.

SCIENTIFIC ARTICLES

RECENT ADVANCES IN THE TREATMENT OF CEREBRAL THROMBOSIS*

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With the increasing incidence of degenerative diseases resulting from the longer life span one of the more commonly encountered conditions is that of cerebral thrombosis. Until recently the treatment of this condition has been one of supportive measures, mainly nursing care. Recovery has been left to the spontaneity of nature and its degree to time.

Supportive measures and nursing care are still essentials in management. The helpless individual must be moved in bed frequently to prevent pressure sores. Care must be taken in moving to avoid causing pain or injuring the helpless limbs. Needs must be anticipated for those unable to express themselves. Adequate fluid intake and nutrition must be maintained to conserve the individual's physical status and to prevent bed sores. If the patient cannot swallow or does not take enough food and liquids a Levine tube is inserted during the day and removed at night. Fluids may be supplied intravenously the first day or two. Elimination must be taken care of through mild laxatives or enemas and fecal impactions avoided. For those who are unable to void or whose size makes frequent changes of linen difficult an indwelling catheter with several irrigations daily must be instituted. Associated cardiac conditions must be appropriately treated. Pulmonary ventilation is important as poor oxygenation of the blood further aggravates cerebral anoxia. The administration of oxygen should be routine until adequate pulmonary ventilation is obtained. The accumulation of secretions in the throat are removed by suction and may be diminished by atropine. Since bronchopneumonia is a common complication in cerebrovascular accidents prophylactic chemotherapy is indicated. If restlessness is a problem sedatives but not narcotics are indicated. Physiotherapy is begun as early as possible to more fully utilize potential recovery.

The term cerebral thrombosis is used in this paper to include both arterial thrombosis and vascular insufficiency. Many cases of cerebral thrombosis are actually inadequate blood flow through a sclerotic but patent artery and cannot be differentiated clinically.

When the arterial blood supply to an area of the brain is diminished by vascular narrowing or thrombotic occlusion that area will undergo loss of function. Death of ganglion cells and fiber tracts will occur in the affected area unless the original blood flow is restored or collateral circulation is quickly developed. The anoxia present causes dilatation and stasis of the venocapillary bed with diapedesis of plasma and cellular elements through the vessel walls resulting in edema. Persistent constriction of the arteriolar bed also occurs and this may spread to a much wider area than that directly influenced by the vascular occlusion causing loss of function of a much larger area of brain. This situation is reversible and recovery may occur.

Although laboratory investigators of cerebral bloodflow reported that the neurovascular mechanism of the brain is weak clinical observations cast doubt on this. After a report of improvement in two cases of postoperative hemiplegia by infiltration of the stellate ganglion by Lerich and Fontaine in 1936 reports by other authors appeared showing marked improvement in cases of cerebral thrombosis and embolism but no improvement in cerebral hemorrhage following infiltration of the stellate ganglion.

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This procedure apparently overcomes cerebral anoxia and its attendant evils by relaxing vasoconstriction of the arteriolar bed.

Most of the practitioners dealing with cerebral thrombosis have not acquired the art of injecting the stellate ganglion nor do they have readily available someone who can do it for them. Those who have had experience in stellate ganglion block stress the need for early and repeated blocks.

Another method for relieving cerebral anoxia by vasodilation has been reported by Furmanski using intravenous histamine. Detailed investigations of the effects of histamine in man have shown that when histamine phosphate was given by slow intravenous infusion, a widespread dilatation of the arterioles, capillaries and venules of the brain and skin occurred without any change in the arterial or venous pressure and without any distress to the patient. The speed of administration is very important as 0.1 mgm. given suddenly can give an intense reaction whereas 10 to 20 mgm. can be tolerated without toxic effects if given in a slow intravenous infusion over a period of one hour. The cerebral vessels are even more sensitive than the facial vessels. It has been established that the proper rate of flow to produce adequate cerebral vasodilatation is 2.75 mgm. of histamine diphosphate in 500 cc of fluid in two hours. Ampules of histamine diphosphate in 2.75 mgm. in five cc are readily obtainable and the diluting vehicle may be isotonic saline, five per cent glucose or any similar solution. Four hours of continuous dilatation is given with the first infusion, 500 cc is given three times daily until improvement has been maintained several days. Then the infusions are decreased to two and then to one a day for a week. Patients who show little change receive infusions three times a day for two weeks.

As an adjunct to the histamine therapy, nicotinic acid 100 mgm. four times daily is administered orally between infusions to maintain dilatation.

Before any therapy is instituted in a patient presenting the picture of a cerebrovascular accident it is imperative that an attempt be made to differentiate between cerebral embolism, thrombosis and hemorrhage. Vasodilatation therapy by either stellate ganglion block or histamine is contraindicated in cerebral hemorrhage. This latter accounts for 20 per cent of the cases of cerebrovascular accident. The history is obtained from the patient, if possible, or the relatives or whoever can give a brief history. Physical examination is done with emphasis on neurological and cardiovascular examination. Embolism may be recognized by its sudden onset associated with a lesion producing an embolus such as bacterial endocarditis. Lumbar puncture is done if no papilledema is present. Two-thirds of the cases of cerebral hemorrhage will give either a bloody spinal fluid or increased pressure. If the fluid is clear and pressure is under 200 mm. of water vaso-dilatation therapy is begun.

Compared to the usual mortality and improvement rates the treatment of cerebral thrombosis by vasodilatation methods, either stellate ganglion block or intravenous histamine, shows a marked improvement over the old passive treatment.

This author's cases of cerebral thrombosis treated by vasodilatation therapy are too few for statistical evaluation but the clinical impression of the histamine method is very favorable. Perhaps some of the enthusiasm for this newer method of treatment comes from the satisfaction to one's self and the patient's family in knowing that active steps are being taken to influence the course of the disease instead of merely observing the natural course of events and waiting for the outcome whatever it may be.

SUMMARY

Early vasodilatation will favorably influence the outcome of cerebral thrombosis.

Of the two methods described, stellate ganglion block and intravenous histamine, the latter is a safer and more readily available method for most physicians treating cerebral thrombosis.

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TRAUMATIC INJURIES OF THE THORAX*

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The present mode of living has brought about an increase in the incidence of serious thoracic injuries. With the use of the automobile and the mechanism of industry, most of the emergencies involving the chest are of traumatic origin. Today, we are treating many of these patients successfully. This improvement in the treatment of thoracic injuries has been due to (1) a better understanding of the cardiorespiratory physiology (2) the development of better methods of anesthesia (3) the recognition and adequate treatment of shock and hemorrhage (4) the use of antibiotics and sulfonamides (5) the development of surgical principles within the thorax.

PHYSIOLOGY

Thoracic injuries differ from injuries in other parts of the body because they often seriously embarrass cardiorespiratory function. Consequently, even minor thoracic injuries on the surface may produce serious effects, early or late, on this indispensable physiologic function.

Basically, cardiorespiratory function depends upon the adequate interchange of gases across the membrane between capillary blood and alveolar air. If capillary circulation is adequate and there is sufficient gaseous reservoir at the alveolar level adequate cardiorespiratory function can be maintained. Stated more simply, there must be an adequate circulation through a lung expanded enough to carry on respiration. There is no need to go into the multitude of mechanics brought into play for the accomplishment of this function.

DIAGNOSTIC POINTS

In all types of thoracic injuries there are a few valuable diagnostic points, the physical signs however, should be evaluated in light of other findings. The amount of shock, cyanosis and dyspnea may vary greatly from a minimal to an extreme degree. The absence of breath sounds and abnormal resonance to percussion aid in localization of the injured side. Subcutaneous emphysema may be a source of confusion but it is usually due to a ruptured lung, crepitation at the jugular notch is indicative of pneumomediastinum, displacement of the apex beat and trachea in trauma is presumptive evidence of intrapleural pressure by a tension pneumothorax or a hemopneumothorax. Rarely will this displacement be caused by a massive atelectasis associated with trauma. Paradoxical breathing is indicative of multiple rib fractures producing a "stove-in-chest". The presence of blood in the sputum, in the absence of injuries in the oropharynx, is a reliable indication of lung injury.

X-ray study is helpful but has its limitations. The inability of the patient to cooperate is a factor. Due to the rapid accumulation of fluid in contused lung, the extent of pulmonary changes in the roentgenogram may be out of proportion to the actual amount of tisue damage, also the pathologic condition in the lungs is often obscured by co-existing emphysema. Nevertheless, when possible, roentgenograms should be made and are invaluable, but one must realize the limitations.

FUNDAMENTALS OF TREATMENT

Treatment of traumatic chest injuries resolves itself into the immediate care to save life and reparative surgery to remedy structural defects. Any and all parts of the thoracic cage must be restored promptly either by repair or substitution; the tracheobronchial system must be clear and sufficient lung expanded to permit aeration of alveoli not rendered useless by primary damage. Oxygen therapy is invaluable and blood replacement in severe blood loss is a necessity. The anoxia, shock and hemorrhage may prove fatal if treatment is inadequate. Immobilization of the chest for fractured ribs is avoided unless a flail chest exists causing paradoxical breathing and mediastinal flutter. Fractured ribs are best treated by intercostal or paravertebral nerve block. This controls pain yet permits efficient breathing and expectoration.

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Bleeding from the chest wall is controlled by pressure dressings or by clamping and ligating exposed vessels. Shifting of the mediastinum which has been restored to the median position is evidence of progressive intrathoracic bleeding and is an indication for surgical intervention. It may be necessary to operate while the patient is still in shock to control bleeding from an intercostal or internal mammary artery or massive bleeding from the lung. The packing of occlusive dressings and/or suturing are imperative to close open or sucking wounds. The closing of a sucking wound or the deflation of a pneumothorax are often life saving. Sedation in small doses allays pain and apprehension.

Maintenance of a clear airway by coughing, tracheal suction or bronchoscopy is necessary. Postural drainage is poorly tolerated and should not be attempted. Cardiac tamponade should be treated by immediate subxiphoid aspiration.

These measures, emergency in nature, are planned to prepare the patient for more definitive surgery. It is unwise to rush into radical procedures without benefit of preparation. Sometimes prompt intelligent emergency measures will obviate the necessity for more radical procedures.

NONPENETRATING WOUNDS

Nonpenetrating wounds of the thorax vary greatly in extent. There may be only a simple contusion of the chest wall with no damage to the underlying structures, or a simple linear fracture of the rib without displacement. After x-ray study, to rule out more serious injury, these are treated by observation and symptomatic relief only. Tangential nonpenetrating lacerations are not usually associated with serious thoracic dysfunction and may be closed early, primarily or secondarily, with or without debridement. Wounds caused by blunt instruments or flying fragments need debridement and may produce damage to the underlying structures.

Pneumonitis, hemorrhagic in character, and varying in extent, often follows if the impact is great. Atelectasis also occurs and is confused with pneumonitis but, unless there is a marked atelectasis, it is treated just as the pneumonitis with antibiotics, supportive therapy and time. A massive atelectasis requires aspiration of the tracheobronchial tree either by catheter or the bronchoscope. Pneumothorax, hemothorax or more frequently hemopneumothorax may occur, particularly if the ribs have been fractured. These conditions will be discussed separately.

A more serious type of nonpenetrating injury is the crushed chest with multiple rib fractures, the "stove-in-chest", producing a flail chest. Shock and cardiorespiratory embarrassment are usually severe. Hemopneumothorax and extensive emphysema are almost invariably present, in addition there is instability of the affected side producing paradoxical respiration. It is also necessary in such instances to pay particular attention to the presence of contrecoup injuries of the lung and laceration of the diaphragm. Inadequate respiration, further loss of breathing space due to injury of the opposite side, loss of coughing ability, and mediastinal flutter may lead to rapid deterioration and fatality. The multiple fractured ribs require immobilization to control paradoxical respiration and mediastinal flutter which can cause cardiorespiratory failure in the absence of visceral injury. The flail chest retracts on inspiration and expands on expiration. Immobilization is accomplished with sand bags and adhesive strapping over a thick layer of gauze. If there is considerable deformity of the chest due to overriding of rib fragments reduction and immobilization can be attained in the expanded position by attaching to the ribs pericostal wires or towel clips and applying traction. One must make certain there is a free airway and also treat the hemopneumothorax. If a diaphragmatic hernia or a rupture of the esophagus is suspected, barium or lipiodol studies are indicated with repair or mediastomy as indicated. One should use infusion and transfusions with caution for the shock in these patients is likely due to factors other than hemorrhage. Right heart failure may result if such measures are used indiscriminately.

PENETRATING WOUNDS

Penetrating wounds vary from bullet or stab wounds to wide open wounds. Sucking or widely opened wounds require operating room care after the emergency phase, to bridge the defect, has passed. Adequate blood and endotracheal anesthesia must be available. Most of these wounds should be enlarged to permit exploration of the thorax. Badly comminuted rib ends and pleural foreign bodies should be removed and hemostasis secured. Severely damaged lung needs segmental resection to prevent later complications. Parenchymal foreign bodies may be removed if they do not entail too much

surgery. Hemorrhage must be controlled. Every effort is made to preserve maximal amount of chest wall and pulmonary parenchyma. If expansion of the lung at the end of operation is maintained by closed suction drainage, pleural complications will be reduced to a minimum.

When there is a penetrating bullet wound produced by a pistol or rifle, we use conservative treatment unless there is evidence of hemorrhage. The bullet can be removed at a later date under more favorable circumstances. If there is hemorrhage we do a thoracotomy under endotracheal anesthesia.

PNEUMOTHORAX

Traumatic pneumothorax may be open or closed, and may or may not be under tension. The pneumothorax occurring with an open chest wound must be watched after the thorax has been closed, intrapleural pressure must be equalized by aspiration as indicated, or closed catheter drainage instituted at operation. Tension pneumothorax occurs when there is formation of a flutter valve through the agency of disrupted lung tissue. Immediate deflation is necessary to restore the mediastinum to the midline. This may be done first by simply aspirating with a syringe. If air accumulates rapidly, a blunt large bore needly is inserted in the second or third anterior interspace and underwater drainage instituted. If air continues to accumulate, an intercostal catheter is inserted and underwater drainage instituted. Negative suction is contraindicated; it will keep the lacerated lung patent. Closure of the lung is ascertained by testing the pleural pressure and observing when it is a negative pressure.

HEMOTHORAX

Hemothorax may occur alone or with associated trauma. The shock, signs of internal bleeding and pain may simulate acute surgical disease of the abdomen. Bleeding may be minimal or severe and progressive. Unless it stems from a large hilar vessel, bleeding from the lung usually stops as soon as intrapleural pressure becomes greater than that in the torn vessel. Bleeding from a pulmonary laceration, unless it is deep, seldom continues after 24 hours or 48 hours. Therefore, it is possible to aspirate the blood early without fear of secondary hemorrhage. After the initial shock, hemorrhage, and respiratory distress is treated, attention is directed in evacuating the hemothorax, re-expanding the lung and obliterating the pleural cavity as rapidly as possible. If there is a rapid reaccumulation of blood in the pleural cavity and the patient does not respond to the measures outlined, surgical intervention may be required to control hemorrhage, even if its source is not immediately apparent. Bleeding from an intercostal or internal mammary artery may require ligation; from a hilar vessel or a deep pulmonary laceration, suturing or pulmonary resection.

When surgical intervention is not necessary, daily aspiration of the bloody fluid is done, every case is treated as a potential empyema until the blood has been completely evacuated or absorbed. Therefore, antibiotics are instilled after each aspiration. Recently streptokinase-streptodornase has been used in bringing about lysis of clotted hemothorax making possible aspiration after clotting occurs. This may make decortication unnecessary; time will answer the question.

THORACO ABDOMINAL WOUNDS

Penetrating and perforating injuries of the lower thorax may perforate the diaphragm and damage the abdominal contents. All of these patients are seriously ill and the prognosis is grave in a majority. A lower chest injury may simulate an acute condition of the abdomen with nausea, vomiting and abdominal rigidity. The symptoms of an injured diaphragm are thoracic type of breathing with a "catch" at the end of respiration. There is a shoulder pain and diminution or absent excursion of the diaphragm.After the diagnosis is established by clinical and roentgen studies, exploration is routinely indicated. The thoracic approach is preferable, it permits excellent approach to the chest and may be easily extended to complete the abdominal work. On the left side one must look for injury to the spleen, stomach, tail of pancreas, colon and kidney. On the right, liver lacerations present difficulties. On this side subdiaphragmatic drainage is used routinely if there is liver damage, to reduce the incidence of bile empyema.

INJURIES TO THE HEART AND GREAT VESSELS

Patients with such injuries usually do not survive long enough for them to reach definitive treatment. Those who do, are usually suffering from heart lacerations and may present the findings of cardiac tamponade. The chambers of the heart do not fill due to compression from blood accumulated in the pericardial sac. There is a rising venous pressure, low arterial pressure and a quiet heart. The area of cardiac dullness is increased, the veins of the neck are distended and there is x-ray evidence of an

enlarging cardiac shadow.

The pericardial sac is aspirated by the subxiphoid route. If this suffices to restore cardiac function no further treatment is necessary. If not, pericardotomy and suturing of the laceration are required.

RETAINED FOREIGN BODIES

It has been debatable as to whether foreign bodies should be removed from within the lung, pericardium, myocardium, chambers of the heart and walls of the great vessels. Recent experiences with post war casualties indicate that they do suppurate and bleed years later. Before World War II a majority favored treatment without operation. This attitude has been reversed by the successful treatment of a relatively large number of such cases occurring in military personnel. The case for early removal seems firmly established. Harken and his associates have been leaders in this field.

SUMMARY

1. There is an increasing incidence in thoracic injuries.

2. Present-day treatment of such injuries is successful in many instances due to advancements in physiology, anesthesiology, bacteriology and surgery.

3. Attention to cardiorespiratory function is of paramount importance.

4. Physical examination is the most important diagnostic procedure.

5. Treatment consists of intelligent immediate care to save life and reparative surgery to remedy structural defects.

6. The closing of an open wound or the deflation of a pneumothorax are often life saving.

7. Extensive surgery can bring about gratifying results but should be done under favorable circumstances using endotracheal anesthesia.

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CARCINOMA OF THE LUNG*

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Only 15 years ago a discussion of carcinoma of the lung before a group such as this would have seemed somewhat presumptuous. Not only was bronchogenic carcinoma considered rare, but it was also considered an incurable disease. The average general practitioner would be fortunate indeed if he saw more than two or three such cases during the whole of his practice. It is true that some cases were seen and not recognized; but this is excusable since, like tuberculosis, cancer of the lung is characterized by its vagaries and masquerades. It is less than 20 years ago that the first successful operation was performed for this disease, and the patient, a physician, is still living and continuing his medical practice. The report of this successful case provided a great impetus to thoracic surgeons in particular, so far as an increased interest in the subject was concerned. It is most gratifying that this interest was also shared by the internist and the anesthesiologist. Ways and means were devised to increase the methods of diagnosis, surgical technique, and the provision of proper anesthesia; all of which have served to contribute to our progress. The fact that most physicians are constantly aware of the probability and possibility of the condition has been most gratifying. However, we cannot be smug and satisfied with ourselves, since the average case is not given definitive treatment until it has been present for at least eight months. The reason for this is twofold. Patients do not seek medical advice soon enough; and physicians, in some instances procrastinate.

ETIOLOGY

The etiology of carcinoma of the lung, as in other organs, has received much attention. Numerous reports have appeared and various theories postulated; but none seem satisfactory. It has been known for years that miners in certain districts of Germany show a very high incidence of occurrence.

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The inhalation of exhaust gases and cigarette smoking have received more than their share of blame.

INCIDENCE

The disease is definitely on the increase. In some large urban hospitals it occurs more frequently than carcinoma of any other organ, even carcinoma of the stomach. Certainly, the country over, it is found to be running a close second. At first it was thought that the increase was only an apparent one, perhaps due to more careful study by the clinician coupled with the utilization of better diagnostic procedures. This is not the answer. The increase has been too rapid. We must not forget, too, that life expectancy has been greatly lengthened since the turn of the century until now it is around 64 years. There are more older people, and carcinoma of the lung is most frequently seen among persons in the fifth, sixth, and seventh decades of life. The male suffers more than the female by a ratio of five to 10 to one.

SIGNS AND SYMPTOMS

These will vary with the location and duration of the disease. There is no doubt that the onset is insidious and that a latent period occurs when the patient enjoys perfect health. As the tumor progresses, certain alterations in physiology occur and the patient himself feels that all is not well. Since over 90 per cent of lung carcinomas are bronchogenic it is not strange that *cough* appears early. Here, again, is evidence of progression of the lesion. Cough is frequently overlooked by the patient or little significance attached to it, particularly by smokers. Not infrequently the physician is not particularly perturbed and may prescribe cough medicine in lieu of a careful examination. There are two important points regarding cough. Even if a cough has been present for years, has it changed in time of occurrence and in character? If true, this should create a suspicion that something has happened which is responsible for the change in symptoms.

Hemoptysis in the form of slight blood-streaked sputum or in copious amounts may suddenly appear. It may remain constant or intermittent and without any other symptoms. It is significant of a break in continuity of tissue, and in the older age group calls for close scrutiny. Too often these patients are sent to a sanatorium with the presumptive diagnosis of tuberculosis, and valuable time is lost before the condition is recognized.

Chest pain, usually not severe but referred to as discomfort and uneasiness in some part of the chest, is not uncommon. It generally occurs later in lesions of the bronchus, rather than in the peripheral ones where pleural irritation occurs early by direct extension and contiguity with other structures.

Dyspnea when present signifies that the growth has reached sufficient size to interfere mechanically with proper respiration. Bronchial lesions in the larger bronchi may very well block an entire lobe or lobes, thus preventing their proper function. Widespread atelectasis, mediastinal shift, retention of secretions, superimposed infection, abscess formation, and toxemia, all contribute to dyspnea.

Chills and fever like dyspnea not only direct one's attention to mechanical obstruction but to the complications of infection.

Loss of weight occurs as the disease advances, at first due chiefly to loss of sleep and rest because of a harassing cough; later due to loss of appetite because of the extension of the disease and toxemia.

Hoarseness of recent development is indicative of spread of the tumor to contiguous organs, most commonly the recurrent laryngeal nerve. It is more common in hilar lesions than those arising in the periphery of the lung. At times, however, metastases to the mediastinum occur very early and direct one's attention to the hoplessness of the condition.

Wheezing is produced by compression of a larger bronchus or actual partial blockage. It usually disappears with complete obstruction. If the tumor sloughs from time to time, it may produce an intermittent wheeze.

Other signs and symptoms may be present. These will vary with the location and extent of the growth.

PATHOLOGY

The great majority of primary lung tumors are bronchogenic in type, the larger bronchi being the most frequent site. The most common type is the squamous cell or epidermoid carcinoma, which arises as the result of squamous cell metaplasia of the bronchial mucosa. Other types arise from the columnar cells and mucous glands. These form pure adenocarcinoma or the undifferentiated types. The bronchial adenoma, which has provoked much discussion regarding its degree of malignancy or potential malignant

characteristics, shows the characteristics of adenocarcinoma.

DIAGNOSIS

Unfortunately, the diagnosis of bronchogenic carcinoma is not made, except through accident, until the signs and symptoms resulting from definite physiologic alterations have taken place. If these cases are seen early, before any significant changes have taken place, the problem is not a simple one. The most useful method the physician has in his diagnostic armamentarium is the knowledge and awareness that malignant disease is a possibility. These coupled with a complete history are invaluable; and by careful sifting of facts at hand, little else is needed. The most valuable diagnostic procedure is the X-ray. Chest films made from several angles to insure the examiner that all blind areas are brought into view will give the correct answer in most cases. Bronchoscopy will assist a great deal if the lesion is within the visual field of the bronchoscope. The presence of a growth can be determined, its resectability, and through biopsy the pathological nature of the growth can be accurately determined. In the event that biopsy is not possible and the growth not within the field of vision, aspiration of the bronchial secretions will show malignant cells in a high percentage of cases. If a pleural effusion is present, a thoracentesis is always indicated. The type of fluid is noted and cytologic studies can be carried out in the same manner as with the bronchial secretions. Patients are frequently relieved of dyspnea following thoracentesis, although only temporarily so. Better X-rays are also possible and further lung detail is made available. Bronchography through the introduction of iodized oil into the tracheo-bronchial tree will add materially to all the evidence at hand. This should be used only after other diagnostic procedures are utilized. The oil is slow to be expelled and adds to the operative and postoperative complications. To avoid these, one has to wait, thereby losing valuable time during which the disease progresses. In spite of careful study and the utilization of all methods, there will be a small group of patients in whom a definite diagnosis cannot be made. It is in this group where a high percentage of error is committed; namely, watchful waiting. Exploratory thoracotomy is the procedure of choice and should be carried out at once. The mortality and morbidity is no greater than following an exploratory laparotomy. If it carried twice the mortality, the indication still would exist if for no other reason than that it would permit correct diagnosis and afford the chance of definitive treatment at the earliest possible moment. Watchful procrastination is mentioned only to be condemned.

TREATMENT

The best treatment is resection of the involved lobe or lung together with all regional lymph nodes. This is not always possible as shown in a study of the cases admitted on the surgical service of the State of Wisconsin General Hospitol during the past five years. There were 145 proven cases. Ninety, or 62 per cent were operated upon. Thoracotomy only was performed in 50, or in 34 per cent. Pneumonectomy or lobectomy was possible in 40 patients, 28 per cent of the total series, and 45 per cent of the operative cases. Resection was performed if technically possible, particularly in patients where a high degree of bronchial obstruction existed with or without accompanying infection. One of the most discouraging features of this study became evident following a tabulation of those who were judged hopeless because of the far advanced disease. There were 29, or 20 per cent, in this group. Neglect on the part of the patient to present himself early and procrastination by the attending physician contributed to this group.

RESULTS

The final proof of what can be expected in the treatment of carcinoma of the lung is answered by the analysis of the cases alive and well for five or more years. It need not be repeated that they are far from satisfactory the world over. We do know that improvement has taken place, but much more data must be presented to place the results on a level with those of carcinoma of the breast. Our series of cases shows that there are 25 patients alive from six months to five years, or 17 per cent. As time passes this number will be greatly reduced through recurrence locally or metastases. If any conclusion is to be drawn it would necessarily be that a discouraging picture exists and that there is ample opportunity for improvement. The operative mortality in this group of patients was nine per cent. This figure was computed from the number of deaths that occurred following exploration only or resection. An operated patient who died before leaving the hospital regardless of the cause was counted. No deaths were directly attributed to technical errors.

REMARKS

Fifteen years ago the literature contained few articles giving any encouragement to those interested in treating cancer of the lung. Progress, although slow, has been continuous, especially during the past decade. We have literally lifted ourselves out of a hopeless abyss by our bootstraps. We are far from solid ground but still continue on our way.

Carcinoma of the lung due to its asymptomatic, latent, early, phase offers the greatest barrier to early recognition. When symptoms of sufficient intensity appear to stimulate the patient to see his physician,the disease is fully developed and may be well disseminated. These individuals can usually be easily diagnosed through the various precision methods. How are we to search out the early cases? The answer probably lies in the routine screening of all citizens by X-ray. This method has been highly successful throughout the country in the search for incipient tuberculosis. We have noted in recent years a definite increase in the number of mediastinal tumors in the younger age group. These were predominantly asymptomatic and would have continued to go unrecognized had it not been for these routine screening X-rays in the schools of Wisconsin.

The average individual is loath to see his physician for the express purpose of keeping well. Not infrequently, however, you will hear someone boast of his perfect physical condition. He goes on to tell you that he saw his doctor for a checkup. A week later he has a coronary attack or develops a sudden intestinal obstruction. Many of these examinations are cursory. Wouldn't it be of more value, particularly in the older age group, to rule out the gastrointestinal tract and the lungs by careful X-ray examinations? Any disease showing such an increase in incidence as has carcinoma of the lung offers a challenge. Our experience, particularly since the war, clearly demonstrated to us that in Wisconsin this challenge is being answered slowly but increasingly. We as physicians cannot drag apparently well patients into our offices, but through careful thought and planning we can devise ways and means to stimulate the people of our communities to seek more preventive medicine.

MEET OUR CONTRIBUTORS

Joseph W. Gale, M.D., Madison, Wisconsin, guest speaker at the 1950 Annual Meeting, has an article on "Carcinoma of the Lung" appearing in this issue of the Journal. Doctor Gale, who is certified by the American Board of Surgery, was graduated from Washington University in 1924. He served an internship and residency at Barnes Hospital, St. Louis. He was a colonel in the medical corps from 1942-44. Doctor Gale is a member of the American Surgical Association, Central Surgical Association, American College of Surgeons (Fellow), and the Western Surgical Association.

William N. Weaver, M.D., Muskogee, wrote the article on "Recent Advances in the Treatment of Cerebral Thrombosis" in the March Journal. Doctor Weaver was graduated from Tulane University of Louisiana, New Orleans, in 1932 and specializes in internal medicine. Serving 59 months in the army as a lieutenant colonel, he also spent one year as instructor in pathology, University of Virginia Hospital, Charlottesville, before practicing in Muskogee.

Royal E. Stuart, M.D., Tulsa, attended the University of Oklahoma and Vanderbilt University before graduating from the University of Virginia in 1944. His specialty is otolaryngology and endoscopy. He spent 36 months in the navy with the rank of Lt. (jg). He wrote "Deep Infection of the Neck" in this issue.

Ellis Edwin Fair, M.D., Oklahoma City, is the author of "Traumatic Injuries of the Thorax". A graduate of the University of Oklahoma in 1941, he specializes in general and thoracic surgery. Doctor Fair practiced in Rochester, Minnesota from 1943 to 1947. He has been certified by the American Board of Surgery.

N. Price Eley, M.D. and *Howard C. Hopps, M.D.*, Oklahoma City, are joint authors of the Clinical Pathologic Conference in this issue. Doctor Hopps, who is director of pathology at the University of Oklahoma School of Medicine, is well known to the readers of Meet Our Contributors as his Clinical Pathologic Conferences have appeared in various issues of the *Journal* for several years. Doctor Eley, whose specialty is gastroenterology, is assistant professor of medicine at the medical school. He is a graduate of the University of Oklahoma School of Medicine.

P. A. Sugg, Oklahoma City, is the author of the article entitled "Accidental Electrocution" in this issue of the Journal. Manager and Vice-President of WKY Radiophone Company, Oklahoma City, Mr. Sugg presented this paper in December, 1950, to the senior medical school class in legal medicine when he was guest lecturer.

DEEP INFECTION OF THE NECK*

ROYAL E. STUART, M.D.
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It has occurred to me on many occasions that some of the least understood, least agreed on, and least generally know areas of the body for the surgeon are the fascial spaces of the neck. Various names are glibly applied to these spaces without general agreement as to their meaning. The most widely-used term is the retropharyngeal space; others are retrovisceral, retro-esophageal, parapharyngeal, pharyngo maxillary, etc. This paper will not add anything original to the subject, but is an effort to clarify the terminology of these spaces and to point out some aspects of diagnosis and management of deep infection in the neck.

I should like to start with a review of a few anatomical considerations. The posterior wall of the pharynx is composed of fascia and the constrictor muscles. Immediately behind this are the prevertebral muscles grouped on the anterior face of the vertebrae. Located laterally are the carotid sheath, the parotid gland and the internal pterygoid muscle. Lower in the neck, behind the esophagus, these structures or their counterparts maintain their relative position.

Closely associated with the posterior pharyngeal wall are three fascial spaces. The pharyngeal mucosa covers the constrictor muscles of the pharynx, which extend from the pharyngeal tubercle of the occipital bone above to the cricopharyngeal sphincter at the opening of the esophagus. The covering fascia is double-layered and contains a potential space extending from the midline to the insertion of the alar fascia. The median raphe divides the space into two symmetrical parts at the midline. These are the peripharyngeal spaces and extend from the base of the skull to the beginning of the esophagus, and from the midline to the carotid sheath on each side.

On the front face of the vertebrae are the prevertebral spaces. They are in double layers of fascia which cover the prevertebral muscles. The anterior longitudinal ligament in the midline separates the right and left spaces. These muscles extend from the base of the skull to the third thoracic vertebra and as they descend they deviate from the midline. The prevertebral spaces are thus similar to the peripharyngeal spaces being immediately behind them, but extend further down, going on through the neck and into the thorax.

Between these two spaces is the single, large postvisceral space. This is probably the space most often called the retropharyngeal space. It extends to the carotid sheath on each side, anteriorly to the pharyngeal wall, posteriorly to the prevertebral muscles and bodies of the vertebrae, from the atlas superiorly down behind the pharynx and esophagus to the posterior mediastinum.

The parapharyngeal or pharyngomaxillary spaces are associated with the carotid sheath. They are best described as an inverted cone with its base at the base of the skull around the jugular foramen and its apex around the carotid sheath at the level of the angle of the jaw. It is divided into an anterior and posterior compartment by the styloid process and its attached muscles. The posterior compartment contains the carotid sheath and lies just anterior to the prevertebral muscles and bodies of the vertebrae, lateral to the postvisceral space. It extends from the base of the skull to the root of the neck. The anterior compartment is a potential space in front of the carotid sheath and styloid process, being surrounded by the parotid gland, internal pterygoid muscle, pharyngeal wall, alar fascia (from the carotid sheath to the pharyngeal wall) and the postvisceral space. It runs from the base of the skull to the angle of the jaw.

The muscles in the suprahyoid or submental region, from the skin inward, are (1) platysma, (2) digastric, (3) mylohyoid, (4) geniohyoid and (5) genioglossus. When this area is infected the pus may lie between any two muscle layers.

When infection invades any of these spaces in the neck it usually comes by way of trauma or by spread of infection from an adjacent area. In the peripharyngeal spaces in the posterior pharyngeal wall the cause may be (1) direct trauma through the pharyngeal wall (2) breakdown of lateral retropharyngeal lymph nodes which drain the nasal cavities, sinuses, nasopharynx, eustachian tubes and middle ears, or (3)

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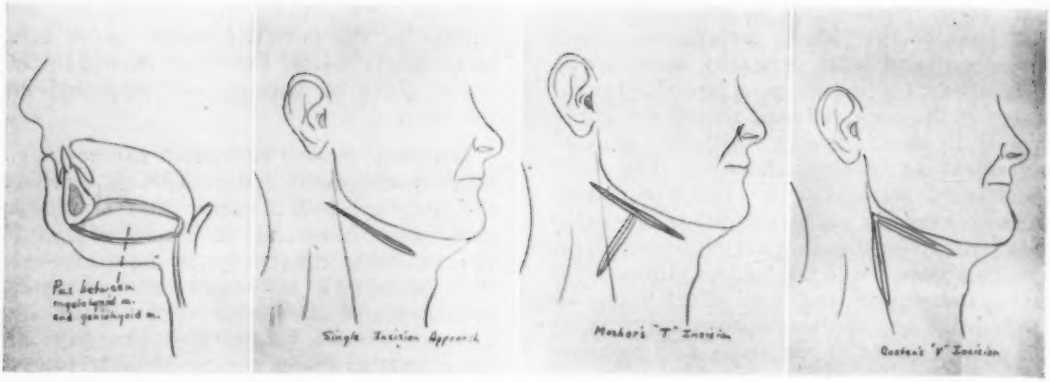

spread of infection from another space. The diagnosis is made on the clinical picture of septic fever and prostration in a patient with painful and difficult swallowing, swelling on one side of the posterior pharyngeal wall but with no lateral bulging of the neck.

The etiology of the infection of the prevertebral spaces is nearly always caries of the cervical vertebrae, usually tuberculous.

Infection in the postvisceral space is usually in children under five years of age and generally results from one of the following: (1) suppuration of the median retropharyngeal lymph nodes, especially following measles or scarlet fever, (2) direct trauma from a foreign body in the pharynx or esophagus, (3) direct trauma at adenoidectomy, (4) perforation of the esophagus at esophagoscopy, or (5) rupture from infection in other spaces. The most important diagnostic point is for the examiner to feel the "feather pillow" behind the posterior pharyngeal wall. The appearance of this area may not be striking because both sides of the wall have a smooth swelling which may be deceiving but the feel is characteristic. These children have muffled voices, severe nasal obstruction and nursing trouble. With their difficult breathing there may be an inspiratory and expiratory stridor which is worse when they are asleep but better when the head is extended; thus they often assume a characteristic head-extended position. The cardinal points in the diagnosis are the head-extended position in a child with septic fever, nasal obstruction, difficult breathing, and a soft, usually fluctuant mass behind the pharynx.

The parapharyngeal spaces are most often involved by spread of infection from the

tonsils, which are separated from them only by the constrictor muscle layer. This especially follows a peritonsillar abscess or tonsillectomy when local anesthesia is injected into the area. Other causes of infection in these spaces is the spread from parotid or postvisceral areas, from cervical lymph nodes (which lie on the carotid sheath), or from petrous pyramid or mastoid tip abscesses. Symptoms, in order of importance, are (1) Inability to open the mouth, (2) induration at the angle of the jaw, (3) fever, which may be septic in nature, and (4) bulging of the lateral wall into the pharynx. The external bulging and tenderness are greatest over the submaxillary region. Later this may extend up or down and the whole side of the neck may become exquisitely tender and cone-shaped and form a woody mass from the ear to the clavicle. Fluctuation may not appear at all.

Ninety-five per cent of the infections in the suprahyoid region are of dental origin, the other five per cent coming from various sources such as an infected hair shaft on the chin, a submental salivary calculus, etc. The organism is Vincent's spirochete and the fusiform bacillus, or staphylococcus or streptococcus, or, as is often the case, a combination. Swelling both externally and internally is the prominent symptom. The tongue is red and edematous and is pushed upward, or if unilateral, it is pushed to one side. This may at times reach marked proportions with the tongue becoming spherical and large enough to fill the oral cavity and show indentations of the teeth along its edematous border. The external swelling is tender and boardlike and may be one sided to correspond to the internal swelling. At first this is confined to the suprahyoid space but may break through the boundary and include the entire neck down to the clavicle or even into the mediastinum. The discomfort is marked from the onset, swallowing is painful to impossible, speech is gutteral, the patient dribbles saliva, and respiration may be embarrasesd.

Infection in any of these spaces in the neck have certain dangers and complications in common. One of the greatest dangers is in the surgeon himself if he waits for fluctuation and pointing before incising the area. Because of the large amount of tissue overlying these spaces, fluctuation may never occur and should never be used as a criterion as to when to operate. Another common danger is the insidious approach of edema of the larynx. Slight hoarseness may be the only indication and a tracheotomy should be done promptly. Also, at any time the abscess may rupture into the pharynx and strangle a child or be aspirated into the lungs. Again, the great vessels may be eroded with a resulting hemorrhage or thrombosis and septicemia. Of course, extension from one space to another may occur.

There seems to be complete agreement as to the type of treatment for infection in any of these spaces — thorough surgical drainage as soon as it is determined that the abscess stage has been reached and the patient's condition permits. Should the incision be made too early, while the process is still in the cellulitis stage, a drain should be inserted and discharge can be expected in one to two days.

If treatment is prompt an abscess often may be aborted. The following regime should be started as early as possible: Local heat, hot saline throat irrigations, adequate fluids — by vein if necessary, sulfonamides if the patient can take the necessary fluids, penicillin, and dihydrostreptomycin. Alden advises neoarsphenamine for those infections of dental origin. An adequate airway must be maintained. Some surgeons perform elective tracheotomies.

To be more specific about the treatment—peripharyngeal, postvisceral, or prevertebral space infections, if uncomplicated, will show little or no external swelling and should be drained intra-orally. In a head-extended Trendelenburg position, a one inch vertical incision is made over the involved area, then dilated with finger or hemostat. Suction is immediately used to pick up the discharge. The anesthesia is local, either a spray or injection. If the patient is a child he is mummified.

For parapharyngeal space infection the swelling is usually external and the surgical approach should be made below the mandible. The simplest incision is 1-2 cm. below the mandible and parallel to it; another is Costen's "V" incision with the above incision plus another along the anterior border of the sternomastoid muscle. This approach gives good exposure.

Mosher's "T" incision gives excellent exposure but is disfiguring and requires plastic repair later. It is an incision parallel to the mandible, and another at right angles to this at its midpoint. After going through the skin and platysma muscle, the submaxillary salivary gland and anterior facial vein will come into view. The vein should be tied and the gland turned upward. The facial

artery will go with it. In order to drain the parapharyngeal space, the carotid sheath should be found. This can be done by locating the tip of the great horn of the hyoid. The sheath will be opposite it. Using the finger, travel upward along this sheath and enter the pharyngomaxillary fossa, pass to the tip of the styloid process, and go lateral to it to the base of the skull. If the pus is low in the neck, follow the sheath downward from the hyoid tip. Local infiltration is the anesthetic of choice.

For the Ludwig's angina cases an external incision is usually preferred but if most of the swelling is in the floor of the mouth an incision may be made there. When the external incision is used, the full length of the swelling should be opened by a vertical incision, either in the midline or over the point of greatest swelling. If the abscess is localized higher in the neck a collar incision may be done for cosmetic reasons.

Surgery for infection deep in the neck may take all of the surgeon's skill and courage — skill to find the area of infection in a severely swollen and distorted field without destroying important or vital structures, and courage to do prompt surgery in the face of such dangers.

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MEDICAL ABSTRACTS

SPONTANEOUS PNEUMOTHORAX — CONTRAST OF THE BENIGN IDIOPATHIC AND THE TUBERCULOUS TYPES. Hyde, B. and Hyde, L. (Birmingham V.A. Hosp., Van Nuys, Calif.) Ann. Int. Med., 33:1373, December, 1950.

One hundred and one cases of spontaneous pneumothorax were studied and followed over a period of two years; 35 cases were found to be tuberculous, 76 were labeled benign idiopathic. The two types are separate and distinct clinical entities according to the authors. In the tuberculous group 100 per cent were found to have pulmonary infiltration on chest X-Ray while none of the benign idiopathic group showed infiltration at the time of spontaneous pneumothorax; 91 per cent of the tuberculous group had pleural adhesions while there were none in the benign group; the tuberculous group were almost always clinically ill with temperatures of 100 degrees or above while the benign group were not ill or for just a few days and had little if any fever, fever in the latter group never being present for more than seven days. No after care with return to unrestricted activity was recommended for the benign group while in the tuberculous group bed rest and treatment for pulmonary tuberculosis was advocated.

—Robert M. Becker, M.D.

EMERGENCY MEDICAL TREATMENT IN BLEEDING IN ESOPHAGEAL VARICES. Lorant, A. (Dept. Med., Queens Gen. Hosp., Jamacia, N.Y.) Gastroenterol., 16:716, December, 1950.

The authors reports that quick cessation of massive hemorrhage from esophageal varices was noted in five of six patients following the simple procedure of elevation of the foot of the patient's bed about 10 inches or more with the patient in the prone position. The rationale of the procedure is based on decreasing pressure in the dilated engorged esophageal veins by increasing the venous return to the heart through the superior vena cava. Along with this procedure, the usual medical management consisting of whole blood transfusions and parenteral Vitamin K are also recommended.—Robert M. Becker, M.D.

SERUM CALCIUM IN ACUTE PANCREATITIS. Lipp, W., and Hubbard, R. (Dept. Med. Univ. Buffalo, Buffalo, N.Y.) Gastroenterol., 16:726, December, 1950.

Since in the presence of acute pancreatitis surgery is generally contraindicated (high operative mortality and generally good results from medical management), establishment of a correct diagnosis is obviously highly desirable. One laboratory aid has been the finding of a low serum calcium a few days after onset of acute pancreatitis. This finding receives further confirmation in this report in which it was found that in nine of 10 cases of acute pancreatitis the serum calcium was found to be depressed to around 7-9.0 Mgms. per cent between the fourth and ninth day in all nine cases, and most frequently on the fourth and fifth days. The reason for the low serum calcium at these times is thought to be due to the formation of calcium soaps in the abdominal cavity and pancreas as a result of neutral fat being broken down to glycerol and fatty acids from the lipase freely excreted from the severely inflammed pancreas. Although earlier diagnostic criteria are desirable to avoid surgery, in questionable cases that are being followed closely for more definite clues to indicate or contraindicate surgery, this lab procedure is of real help. The authors found their normal values of serum calcium in a range of 9.5 - 10.5 Mgm per cent.

—Robert M. Becker, M.D.

ACTH AND CORTISONE IN ACTIVE INFECTIONS — (Editorial) Paul S. Rhoads, Chicago, Illinois. Arch. of Int. Med., 87:1, January, 1951.

Doctor Rhoads has summarized much of the literature published during the last year and a half dealing with studies relating to the effects of pituitary ACTH and adrenal cortisone on clinical and experimental infections. The results were unanimously unfavorable insofar as any healing or curative effects of these new compounds on different infections were concerned. Although the symptoms of fever, cough, pain, leucocytosis were sometimes dramatically reversed, it was notable in each instance that the ultimate course of the disease was not favorably affected and in fact in several instances seemed to progress under the influence of ACTH and cortisone. Pneumococcal, viral and influenzal pneumonia, pulmonary tuberculosis, poliomyelitis and streptococcal infections were among the reports surveyed by Doctor Rhoads. He concludes that clinicians should beware of administering these new agents to patients with infectious disease unless they are accompanied with vigorous antibiotic therapy.—Robert M. Becker, M.D.

ACCIDENTAL ELECTROCUTION

P. A. SUGG

OKLAHOMA CITY, OKLAHOMA

It is not only possible to electrocute yourself, but fairly easy. You don't have to hunt up a third rail, high tension line, or other potent killer, the job can readily be done at home with common house current. Avoiding an untimely end is also fairly easy although it does call for a little electrical knowledge and a supply of common sense.

The electric current has always been a source of danger to man. Lightning alone constituted the electrical danger of antiquity. Lightning, with its great destructive power has rightfully been feared by man for countless ages. However, today this ancient enemy is being at least partially tamed. This has come about through a better understanding of what it really is and how it works.

How lightning is produced is now pretty well known. A thundercloud takes shape when rising air currents carry moisture far aloft. Raindrops form in the cloud and start to fall. Inside the cloud turbulent air currents are moving up and down at terrific speed. These currents toss raindrops about, breaking them up and somehow in this process a negative electric charge is concentrated in the lower part of the cloud. The negative charge in the cloud attracts to the ground area beneath it an exactly equal positive charge.

Positive and negative electric charges always attract each other. The charges in ground and cloud try desperately to come together, but the air between them prevents this at first, because air is not a good conductor of electricity. As the charge in the earth moves along it swarms up trees, buildings, chimneys, and steeples in its path in an effort to reach the cloud. Soon the charge in the cloud begins to send down a short spurt or "leader" stroke toward the ground, "ionizing" the atoms of air in its path. When air atoms are broken apart this way, they suddenly become better conductors of electricity.

Finally when the leader almost reaches ground, the ground charge may send up a leader of its own to connect with the leader coming from the cloud. Suddenly leaders from the cloud and ground push down and up far enough to meet. Then along this path a terrific flow of current rushes from ground to cloud. This is the lightning flash seen and is probably what does the damage.

Lightning smashes brick chimneys, furniture, wooden walls and plaster because such materials offer resistance to its progress. In forcing its way through them it builds up internal pressures that expand outward with explosive force.

Lightning is very hot. Some strokes at peak generate a temperature as high as 27,000° F. Light from a lightning flash reaches your eye almost instantaneously, but the sound of thunder travels about 1,100 feet a second. Thunder is the noise produced when the lightning current literally explodes apart atoms and molecules of air as it smashes through them.

It is estimated there are some 44,000 lightning storms every day, 100 lightning flashes every second. In the U. S. alone about 400 people are killed annually by lightning and around 1,500 more are injured.

Insurance companies in the U. S. between 1936-1946 paid $54,148,995.00 in claims for fires caused by lightning. Lightning is the main cause of fires in rural areas and most of the deaths and injuries from lightning occur in the country. The reason for this is the buildings of the large cities offer better protection from lightning strikes. Usually they contain water and heating pipes that act like lightning rods to carry current to the ground if they are struck.

ODD FACTS ABOUT LIGHTNING

One's chance of being killed by lightning in the United States is about one in 365,000.

Lightning can and does strike not only twice but many times in the same place.

One of the safest places in a lightning storm is in your car if it's an all steel closed model. If struck, the steel body conducts the current away from you.

Lightning rods do not keep lightning from striking but if it does strike a properly rodded building, the rod system carries the

current harmlessly to the ground without fire or other damage.

Some people struck by lightning die needlessly because those nearby are afraid to touch them, believing that their bodies are charged with electricity. Actually current passes instantaneously out of the body of the victim into the ground. If not instantly killed, he may be saved by prompt use of artificial respiration.

A few rules of safety are:

Most important: get indoors, in a house, barn, or whatever building is handy, the bigger the better. Roofs and walls of buildings usually provide an easier path than the human body for lightning to follow to the ground.

When a thunderstorm threatens, keep away from beaches, fields, golf courses and other open places. Don't go swimming.

Keep away from exposed hilltops, high masts and isolated tall trees.

Don't go near wire fences or other wires.

Indoors the center of the room is about the safest place.

Wiring systems and water pipes also make good pathways for lightning that strikes a house so avoid radio and electric-light switches, keep away from radiators and don't take a bath or shower.

If you do get caught away from shelter, out in the open, take refuge in a ditch or cave or under an overhanging cliff. If there is no shelter of any kind, it's safer to lie on the ground than to stand up. Wearing rubbers will not protect you from a lightning strike.

The first man-made electric shock of which we have any record occurred in Holland in 1746, when two Dutch physicists unintentionally discharged a Leyden jar through their bodies. However, there were probably no serious effects from synthetic electricity until 1879 when a stage carpenter was electrocuted at Lyons by an alternating current of 250 volts.

Today in the United States and Canada the number of fatalities annually ascribed to electricity is seven per million of population and approximately half of the accidents reported are fatal. In the utility field the number of deaths of employees range from 70 to 80 per year.

Shocks too small to produce unconsciousness, if not often repeated, are usually not important from a clinical standpoint unless accompanied by burns. High voltages are generally believed dangerous and low ones harmless, but actually, it is current that kills, voltage is only one factor.

Voltages under 220 tend to produce ventricular fibrillation without affecting the respiratory center. Over 1,000 volts tend to produce paralysis of the respiratory center without affecting the heart and those between 220 and 1,000 tend to involve both the ventricles and the respiratory center. Other things being equal high tension currents are less dangerous than low tension ones.

In determining the effects of passage of an electric current through the body there are certain factors that should be taken into consideration:

1. Type of circuit with which contact is made.
2. Voltage of circuit.
3. Resistance offered by human body.
4. Value of current that flows through tissues.
5. Pathway of the current through the body.
6. Duration of contact.

The most dangerous electricity is AC from 50 to 150 cycles. DC is believed to be slightly less lethal than AC. (The frequency most used in America is 60 cycles although this may vary from 50 to 150 cycles.)

The lowest voltage fatality occurred at 46 volts — 60 cycles. Circuits of 24 volts or less may be considered as safe under practically all conditions. (Circuits supplying homes and factories are commonly 110-120 volts, either alternate or continuous current).

Resistance of the body consists of two parts — that offered by skin and internal resistance. Dry epidermis has a high resistance. Resistance offered by the inner skin is low as body fluids and blood are good conductors because of their salinity. The only poor conductors inside the body are the bones. The internal resistance is, therefore, relatively small.

The value of the alternating current that flows through the body when contact is made with an electric circuit is of extreme importance as it determines the resulting injury.

Current values of interest are:

A. Threshold of feeling.
B. Let-go current.
C. Freezing current.

D. The current which an individual can withstand without being rendered unconscious.

E. The current that will produce ventricular fibrillation.

F. The current that will produce a block or paralysis in the nervous system.

G. The counter shock current.

a. The current that will just produce a tingling sensation which can be detected at the point of contact, is of the order of one or two milliamperes.

b. The let-go current is that value of current which an individual can withstand without harmful effects for-at least the time required for him to release his hold on the circuit. For men, the standard let-go current is nine milliamperes and for women, six.

c. The current that will hold an individual frozen to a circuit is naturally in excess of his let-go value.

d. There is no information available as to current an individual can tolerate without losing consciousness.

e. A current of 100 milliamperes flowing from hands to feet is sufficient to throw ventricles of the heart into fibrillation. This value of current is not large enough to hold hearts in diastole (the rhythmical expansion or dilation of the cavities of the heart).

f. The current that will produce a block or partial paralysis in the nervous system is of the order of several amperes.

g. The counter shock current is that current which will bring the ventricles of a fibrillating heart to rest. A counter shock current of between one and two amperes applied directly to the heart will arrest fibrillation. When this current is broken sharply the heart will usually resume normal coordinated beating.

The pathway of the current through the body is of extreme importance. The heart is the danger area in electrical shock. The central nervous system is the secondary danger zone, but in accidental electrocutions nearly all currents which traverse the head also pass through the chest. Current from foot to foot is never fatal per se no matter what the voltage, yet even a small current passing through the chest may cause death.

Passage of electric current through the body produces numerous effects that differ not only in intensity but also in kind. They range all the way from a slight tingling sensation to death. Consequences depend upon value, frequency and pathway of current and duration of shock. Aftermath may be good or evil. An electric shock may produce healing in certain mental disease or may produce a state of depression of vital processes of the body characterized by rapid but weak pulse, high blood pressure, rapid but shallow breathing, pallor, restlessness, and a depressed mental state similar to surgical shock or a highly excited, almost maniacal state. Loss of consciousness occurs in many cases of electrical shock. Sometimes the patient recovers spontaneously, in other cases after the application of artificial respiration or never.

Electric burns are of two types — those produced by heat of arc and those resulting by the possage of the current through the skin and tissues. Arc burns are similar to those produced by high intensity heat sources. Burns, blisters and markings are not necessarily present on skin after electrical shock.

The flash or arc burns are the most serious of electrical burns. Local changes occur at points of entrance and exit of the current. These marks are usually round or oval varying in size — gray or grayish yellow — slightly elevated at edges with a crater in center.

Where very large currents are passed through the body as in legal electrocutions capillary hemorrhages are found in the brain and the fourth ventricle. These currents are far greater than those necessary to produce death. The hemorrhages are not found in the central nervous system when death is produced by smaller currents. (For electrocutions at the Oklahoma State Penitentiary a special generator is employed using 2300 volts — 58 cycles).

The nervous system may be so profoundly shocked or fatigued by contact with electric circuit it cannot function normally again for a period of minutes or hours. One of the most common effects on the nervous system is temporary paralysis. Location of this block depends upon the path taken by the current. Lungs or other portions of the body may be paralyzed following shock. Many successful resuscitations result from prompt application of artificial respiration.

The human heart does not recover spontaneously from ventricular fibrillation. While the heart is in this condition there is no circulation and death will ensue.

The manifestations of injury from industrial and domestic electric currents may be

divided into those which are acute and those which are late.

ACUTE — Unconsciousness occurs which may last hours or days — frequently complicated by motor irritation—following electrical shock immediately or after an interval of a few minutes. Jellinek describes such cases. He found an increase of inter-cranial pressure and in those which came to autopsy "cerebral edema".

One of his patients received a shock of 5,000 volts. He fell down immediately. Circulation and respiration had apparently stopped. Ten minutes after having been revived by artificial respiration he developed a severe raging excitement which lasted two hours after which he became unconscious again. An hour later the patient was clear and conscious again.

Another patient after recovering from initial unconsciousness, ran around aimlessly for awhile, delirious and confused, then suddenly dropped dead.

These severe initial symptoms after electrical shock are not dependent upon passage of the current through the brain. Cases are described that suggest cerebral sequelae of electrical injuries and in most instances these are not due to direct tissue damage, but are indirectly transmitted to the brain by circulatory disturbances.

LATE — Late and permanent manifestations of injury of the central nervous system are rare, but do occur. Traumatic cataracts are a recognized sequel of electrical injuries. Adam and Cline have compiled 50 such cases. The cataracts have been noted to appear from three weeks to two years after the injury. Atrophy of the muscles is another late manifestation of injury from electrical current.

Treatment is divided into three groups:

1. Treatment for acute shock.

2. Treatment of local injuries which are near point of contact.

3. Treatment of central nervous system damage.

Treatment of acute shock consists mainly of three procedures:

1. Artificial respiration by prone pressure method should be started as soon as possible and carried out unceasingly and untiringly until either spontaneous respiration returns or livid patches and rigor mortis appear.

2. Intra-cardial injection of atropine and adrenalin.

3. Lumbar puncture for relief of increased intra-cranial pressure — repeated if necessary on subsequent days.

Treatment of local injuries at or near points of contact should be started after respiration and circulation have been restored. The burns should be treated like any others. Plastic repair should not be attempted until several months after the injury.

Treatment of central nervous system damage is not different from that of similar conditions of other etiology.

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TWENTY-FIVE YEARS AGO

(from our early files)

DR. JOSEPH DORROUGH, formerly at Indianola, has moved to Haileyville.

DR. E. MARGO, formerly of Covington, has moved from there and is now with the E. D. McBride Clinic at Oklahoma City.

DR. E. R. BARKER, Healdton, who was operated upon at the von Keller Hospital at Ardmore, recently, has recovered and returned home.

DR. C. O. VON WEDEL, Oklahoma City, delivered an address on "Cosmetic Surgery" to members of the Muskogee County Medical Society and Staff of U. S. Veteran's Hospital, Muskogee, recently. His remarks were illustrated with lantern slides.

DR. WANN LANGSTON, Dr. S. E. Kernodle, Dr. Lea A. Riely, Dr. C. J. Fishman, Dr. A. W. White, Dr. L. J. Moorman and Dr. A. B. Chase, Oklahoma City, attended the recent session of the American College of Physicians at Detroit, Michigan, and at the University of Michigan

CLINICAL PATHOLOGIC CONFERENCE

The University of Oklahoma School of Medicine
Presented by the Departments of Pathology and Medicine

HOWARD C. HOPPS, M.D. AND PRICE ELEY, M.D.
OKLAHOMA CITY, OKLAHOMA

DOCTOR HOPPS: Our diagnostic problem for today is a young colored woman with an illness which lasted for about a year. Doctor Eley, who has received only that information about the case which is on your mimeographed sheets, will analyze the clinical aspects of the case.

PROTOCOL

Patient: S. C., 38 year colored female.

Chief Complaints: Anorexia, loss of weight and weakness.

Present Illness: Patient stated that she had "upset stomach", excess gas formation, intolerance to greasy foods and occasional nausea for a period of approximately one year before her present admission. This persisted, essentially unchanged, for approximately four months at which time she began to vomit frequently. During the several months just before admission she was unable to retain hardly anything and often regurgitated even water. She stated she lived principally on cigarettes and coffee. On one occasion she denied having had any pain, but at another time stated that she had had pain in both shoulders. There had been no hematemesis or melana. Her weight had decreased from 138 lbs. to approximately 80 lbs. in the course of her year's illness.

Past and Family History: Noncontributory.

Physical Examination: Revealed an emaciated colored female who was obviously chronically ill and very weak. She was mentally alert and cooperative. Temperature was 98.8°F., pulse rate 82, and respiratory rate 20. Oral hygiene was poor. No significant abnormalities were noted about the head, ears, eyes, nose and throat. Lung fields were clear to auscultation and percussion. No changes were noted about the heart. The abdomen was considerably distended and dome shaped. A fluid wave could easily be elicited and there was shifting dullness in the flanks. An indurated, slightly tender nodular mass was palpable in the left upper quadrant, extending three fingerbreadths below the costal margin and just to the right of the midline. There was moderate costovertebral angle tenderness also. Genitalia were not remarkable. There was marked pedal edema. Reflexes were slightly hypoactive.

Laboratory Data: One month before hospital admission the patient was seen in OPD; Hb was 9.5 gm. per cent, and RBC's 3.50/mm³, WBC's numbered 18,300/mm³, with 80 per cent neutrophiles (stabs 4), plasma protein was 7 gm. per cent, Mazzini test was negative. At the time of hospital admission RBC's numbered 4.63/mm³ and Hb was 12.5 per cent (this was following two transfusions of whole blood), WBC's numbered 8,300 with 89 per cent neutrophiles (juveniles 3, stabs 8) — 1 eosinophil. Plasma protein was 6.15 gm. per cent with A/G ratio of approximately 2.5. Sedimentation rate was 47 mm. at one hour (Wintrobe) — hematocrit was 37 mm. Direct van den Bergh was negative and indirect was less than 0.2 mg. Cholesterol-cephalin flocculation test was negative at 24 and 48 hours. An examination of stool revealed no ova or parasites; a trace of blood was present. X-rays of the chest disclosed the left border of the heart and left costophrenic angle to be obliterated by homogenous density which involved also the left lower lung field and which was considered to represent pleural effusion, possibly with ascites. A barium enema was done and revealed "some narrowing of the distal transverse colon, possibly due to extrinsic pressure as a palpable nodular mass lies just above this region of the transverse colon". A gastrointestinal series was ordered, but the patient expired before this could be done.

Clinical Course: The patient remained afebrile. She was very weak from the onset and did not tolerate feedings well. Intravenous fluids were used to supplement a soft diet; in addition, parenteral vitamins were administered. She was given two transfusions of whole blood. Abdominal paracentesis yielded 4,200 cc's of cloudy yellow

fluid. The abdomen rapidly refilled and one week later 3,000 cc's of a similar fluid was removed. The patient complained moderately of pain in the epigastrium and right shoulder, for which she was given demarol. The patient became stuporous and nasal oxygen was started. She died 14 days after admission to the hospital.

CLINICAL DIAGNOSIS

DOCTOR ELEY: Upon first reading this case, my impression was carcinoma of the GI tract. Although cancer is more prevalent in persons past middle life we see lots of cancer in people 38 years old; more now than we did 20 or 25 years ago. We have better ways of detecting and locating them now. This patient's symptoms of anorexia, weight loss and weakness might go with any long drawn out illness, and I don't know that those symptoms help us very much in the diagnosis. She stated that she had an upset stomach, excess gas formation, intolerance to greasy foods and occasional nausea for a period of approximately one year before hospital admisison. Thus the important symptoms, in the beginning, have to do with the digestive system. One may have nausea for a few days due to some condition outside of the digestive system. However, nausea at intervals over a period of a year, with all of these other symptoms, suggests that we are dealing with some disease involving the upper GI tract. This condition persisted, essentially unchanged, for approximately four months, at which time the patient began to vomit frequently. Her story is characteristic of partial obstruction of the stomach which began several months before hospital admission and which became progressively worse until eventually the obstruction was almost complete.

A malignant neoplasm involving the cardia of the stomach, or the corpus, or almost anywhere along the greater curvature, may become quite large before producing serious symptoms. Ordinarily symptoms of carcinoma of the stomach don't begin until there is interference of passage of material through the stomach, and these are symptoms of partial obstruction.

A process involving the lower part of the stomach would be much more rapid in its progress than was the case here in which symptoms developed over a period of a year. This indicates to me that the process was one involving the upper half of the stomach.

On one occasion the patient denied having any pain. At another time she stated that she had pain in both shoulders. Pain in the shoulders usually indicates irritation of the diaphragm. Disease of either the gallbladder, liver, stomach or pancreas may cause pain to the back or shoulder. If that pain had been described in a little more detail it would have been quite helpful. Associated with all this was weight loss of over 50 pounds. Starvation, from an obstructive carcinoma of the stomach, could account for all this loss of weight.

Upon physical examination nothing abnormal was found in the lungs or heart. Temperature was practically normal; pulse rate was 82 — which is a little faster than normal. This can be associated with general weakness and starvation, etc. The respiratory rate of 20 is "normal" for a patient of this sort. The poor oral hygiene probably reflects, in part, nutritional deficiency of many sorts. The abdomen was considerably distended, dome shaped, and presented a fluid wave. This ascites might represent portal obstruction, generalized carcinomatosis of the abdominal cavity, or congestive failure—the laboratory says she didn't have a protein deficiency, but I don't see how we could help but have hypoproteinemia in a woman who has been vomiting and who has been on a starvation diet. Despite the laboratory report we will consider that this ascites might be nutritional. An indurated, slightly tender nodular mass was present in the left upper quadrant extending three fingerbreadths below the costal margin just to the right of the midline. One might think this was spleen, but it extended across the midline to the right side. It's very unusual for a spleen of this size to extend across the midline and there's no mention made of splenic notch. A malignancy of the transverse or descending colon could account for a mass in that location, as could a malignancy involving the upper part of the greater curvature of the stomach. This could also be a retroperitoneal tumor, e.g. *hypernephroma.* Genitalia were not remarkable. There was marked pedal edema. This could be from hypoproteinemia, aided by pressure on large veins from ascitic fluid. Laboratory data doesn't help us very much except for x-ray studies. Chest films indicated something wrong, but were not conclusive.

A barium enema revealed narrowing of the distal transverse colon, possibly due to extrinsic pressure — perhaps related to the palpable nodular mass lying just above this

region. I don't think I have ever seen a lesion of the colon of this sort caused by enlargement of the spleen. I have seen it from malignancies involving the stomach and pancreas. The patient expired before a GI series was done.

The patient complained during her stay in the hospital of moderate pain in the epigastrium and right shoulder, for which she was given demarol. Again that means she had some irritation involving the left diaphragm or cardiac portion of the stomach. Pain from *pancreatic disease* should be lower than that — about the angle of the scapula, rather than at the level of the shoulder.

Summarizing, I think these findings would warrant a diagnosis of malignancy of the stomach and metastatic lesions to the lung and peritoneal cavity. A second possibility is a malignant lesion primary in the pancreas, although the symptoms, pain, etc., should be somewhat different than described here. There might be a dozen other lesser diagnoses that would be found at autopsy because this patient had been sick a year, lost 50 lbs., etc.

ANATOMIC DIAGNOSIS

DOCTOR HOPPS: At the time of the autopsy one of the striking changes was the marked emaciation. She was estimated to weigh approximately 80 lbs. There was only 0.3 cm. of adipose tissue in the mid-abdominal line—most of her adipose tissue reserves had been used. Despite the fact that abdominal paracentesis had been done shortly before, the abdominal cavity contained about 600 cc's of pink, slightly turbid fluid; specific gravity was 1.010. Peritoneal surfaces were studded with numerous gray-white gelatinous nodules up to 1 cm. in diameter. Masses of intestine were adherent to each other by carcinomatous adhesions. The liver extended down 3 cm. below the costal margin of the right midclavicular line. The mass that had been felt at physical examination apparently was stomach, since this organ was markedly thickened and indurated and occupied that area of the epigastrium described upon physical examination. The stomach was densely adherent to the underlying liver and to the pancreas as a result of direct extension of the neoplasm.

Pleural cavities each contained fluid; the left 400, the right 100 cc's of thin straw colored fluid. The pericardial cavity also contained an excess of fluid, approximately 100 cc's. The lungs were essentially normal in weight and appearance except for a few rather discrete nodules which proved to be metastatic foci. The heart was not remarkable except for marked atrophy. It weighed 125 gm., less than half the normal weight. This was an effect of the wasting disease and the starvation. That same change was seen in many other organs, including liver, spleen and kidneys, so that one of the important diagnoses was marked emaciation and marked atrophy of many viscera.

The most striking changes were seen in the stomach. The stomach wall was diffusely thickened — to as much as 2.5 cm., by mucinous carcinoma. In accord with Doctor Eley's reasoning, the pyloric portion of the stomach was not involved in this process, but rather the neoplasm had involved the cardia, fundus and the distal 2 cm. of the esophagus. I think that Doctor Eley should be highly commended for his deductions which lead to the impression that here was a neoplastic process in the stomach involving primarily the cardiac portion of the stomach. This carcinoma involved the entire thickness of the wall of the stomach, extended into the left lobe of the liver, almost completely obliterated the pancreas, and produced "drop metastasis" which seeded the peritoneal cavity, shortening and thickening the mesentery and omentum, and producing Krukenberg tumors of both ovaries. The ovaries were still fairly small but were diffusely involved by the mucinous adenocarcinoma.

Our final pathologic diagnosis was:

Carcinoma of stomach, diffusely infiltrating, mucinous with direct extension to esophagus, with direct invasion of liver and pancreas, with metastasis to regional lymph nodes, liver, (hematogenous), lungs, ovaries and with peritoneum-peritoneal carcinomatosis

Ascites, hydrothorax, bilateral and hydropericardium

Emaciation, marked, with atrophy of heart, liver, kidneys and spleen, marked

Leiomyomata of uterus

Congenital deformities of urinary tract, double left ureter and pelvis

Special Article

THE MID-CENTURY WHITE HOUSE CONFERENCE ON CHILDREN AND YOUTH

WASHINGTON, D.C., DECEMBER 3-7, 1950
HONORABLE OSCAR R. EWING, CHAIRMAN

The fifth of the White House Conferences on Children is over. At 10 year intervals these conferences have been called since 1909 and out of the previous ones have come very forward looking recommendations for the children of our nation such as the 24 point "Children's Charter" of 1930 and the "Essential Social Services of a Community Program for Children" of 1940 which outlined the Social Services, Foster Care Program, Child Guidance Services, Juvenile Courts, etc.

This recent Conference had the largest number of delegates of any, 5000, and for the first time included Youth, high school and college students up to 25 years. The Youth of all races were in a camp outside of Washington where they lived together in the same barracks, traveled to the Conference and back in chartered buses, and ate at the same tables. All of this was a part of the Conference plan, apparently that they might better know one another and understand each others problems.

One might point out that the Conference was altogether too large for effective participation and deliberation, — the work groups and panel discusisons were unable to reflect the serious consideration which the topics warranted. At the plenary session approximately 100 resolutions were presented for discussion and action in an allotted two and one-half hours. This, however, extended over seven hours with delegates clamoring for recognition and the privilege of the floor at any one of the six microphones available. Often as many as five or 10 delegates would be crowding around a single microphone simultaneously waiting to present their views. Confusion best describes that day, as is perhaps applied in some degree to the entire Conference.

Throughout the four day session the problem of racial discrimination overshadowed all other phases of the Conference and was never permitted to be even momentarily forgotten. Youth as a whole took more than its fair share of the time available. With the general theme of the Conference being, "The Development of a Healthy Personality", for too little consideration was given to those factors and influences in the home, church, and community which so vitally affect the most impressionable age — the first five years of a child's life (broken homes, working mother, divorce, child support).

The influence of Mr. Ewing as general chairman of this Conference was reflected in its organization, the topics considered, and the key speakers on the various formal panel discussions and at the general sessions. In the 31 panel discussions including such matters as the Effects of Discrimination and Prejudice, the Influence of Mobilization and War, Community Planning for Children, Housing, Suitable Working Conditions, Family Income, Social Security Programs, — there was no one representing Manufacturing, Industry large or small, Management, Finance or Business, and yet there were four representatives of C.I.O. and four of A.F. of L. on these panels.

As an example, Panel No. 18: Social Security Programs: Their Implications for the Well-Being of Children and Youth . . .

Chairman: John Corson, Assistant Business Manager, The Washington Post

Speaker: Robert Ball, Assistant Director, Division of Program Analysis, Bureau of Old Age and Survivors' Insurance, Federal Security Agency

Panel Members:

Murray Latimer, Consultant on Social Security to the Kaiser-Frazer Corporation

Lane Kirkland, Member, Research Staff, A.F. of L.

Jane M. Hoey, Director, Bureau of Public Assistance, Federal Security Agency

Kenneth L. Kramer, Director, Insurance and Health Department, Textile Workers Union of America, CIO

Lois Wildy, Director, Illinois Children's Home and Aid Society.

Would it not have been better if in such a panel as this, there had been a representative of Business, Management, or Finance?

There is no doubt but that benefits to Children and Youth of our country will come from this meeting but the total of what might have been under other conditions was diluted by the Conference as it actually operated.—George H. Garrison, M.D.

Photographs courtesy of Louis H. Block, M. D., Chicago

a. Ulcerative amebiasis during Diodoquin therapy. In this patient with severe hemorrhage, edema and necrosis, the ulcers show healing, with many scars. No active lesions are seen.

b. Three months later, after continuing Diodoquin therapy, extensive scarring indicates healing. Inflammation is further reduced and only superficial areas of inflammation remain.

AMEBIASIS: "Diodoquin is probably the least toxic of the drugs and contains the most iodine."[1] "Diodoquin now appears to us to be the drug of choice [for outpatients] because of its effectiveness and because it is tolerated well by most patients."[2]

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ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

1. Johnson, S. K.: Mississippi Doctor 27:69 (July) 1949.
2. Merritt, W.: J. Florida M. A. 35:351 (Dec.) 1948.

RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**

President's Page

There comes a time in the life of every man, every business and every organization when they should pause, reflect and take inventory. This step is considered advisable as well as necessary for the attainment of a successful career or a prosperous business. The Medical Profession is somewhat similar to businesses or other organizations except that most physicians perhaps devote more hours to their profession than is generally necessary in other types of endeavor. Their hours are oftentimes long and tiring. They give little thought as to whether they work 40, 60, 90 or even more hours each week. Since they have so many demands upon their time, they seldom have an opportunity to appreciate the high esteem in which they are held by a majority of the people. Often those in other fields of endeavor have said the medical profession is the most noble one on earth and we should constantly strive to merit this esteem. Being human, we are prone to make mistakes just as any other group of individuals. Nevertheless, basically the Medical Profession comes as near to being honest and devoted to its high responsibilities as any other group. Thus, it becomes the moral obligation of each individual doctor to uphold the glorious standard of medicine, always bearing in mind that the public demands and deserves nothing less than the best of medical care.

Numerous men and women align themselves with one of the allied professions simply because they have such a high regard for the ethics of the medical profession and its place in the public's weal that they, too, wish to be closely connected with it. The achievements of medicine, its scientific advances and its contributions to civilization read much like a story book. Is it any wonder then that other groups, especially those of other cults whom the law has definied to be members of the healing arts wish to be classified along with a profession that has given so much toward health and happiness and the prolongation of life.

The members of one group have fought for years to be placed on an equal footing with the regular medical profession. Yet, their training and accomplishments do not justify equal privileges. Undoubtedly some members of this cult are good, honest men who are not doctors of medicine for the simple reason it was impossible for them to enter the field of medicine on the basis that they were unable to secure admission to a medical school. These remarks must not be misconstrued but are simply stated in an effort to point out the true facts.

Two years ago this particular cult asked that its hospitals be allowed to participate in Blue Cross. After a prolonged period of discussion in which many persons having Blue Cross membership made innumerable requests in behalf of these hospitals, a few were placed on probation and later admitted as members. During the past two years, new hospitals have been constructed in many of the smaller towns of Oklahoma. Most of these were financed by grants from federal funds which were made available through the provisions of the Hill-Burton Bill plus money raised by local bond issues. In nearly every instance this cult has requested its members be placed on the staff. They have been refused in almost every place and several times they have threatened to file suit. Their latest request is that they be permitted to participate in Blue Shield. It will be recalled that the Blue Shield plan was organized and financed by members of the Oklahoma State Medical Association. The question naturally arises as to what right have they to participate in such a plan. If their request is not granted, they threaten to take the subject before the State Legislature.

The above request is their latest but surely not their last one. Therefore, should we continue the fight or should we attempt to arrive at some mutually satisfacory arrangement. Everyone recalls the Homeopaths and Eclectics and the final disposition of these groups. Shall we administer the same treatment to this cult? This question will meet with a lot of opposition. Will those of you who oppose such a thought please come forward with a plausible suggestion concerning the solution of this problem? This question cannot be settled overnight, but is it not wise to be giving some serious thought to it?

Ralph McGill

President

Have you tried the Aerohalor

in treating **secondary invaders**

of the Common Cold?

Let us make this point clear at the beginning. We do not recommend penicillin powder inhalation therapy with the AEROHALOR as a cure for the virus cold. It is not. But Krasno and Rhoads[1] have some interesting observations:

"The course of ordinary colds is strikingly shortened by prompt use of the penicillin dust inhalation. We have no illusions that it is effective against virus that initiates the common cold or any other viruses."

The authors also report: "We are fully aware that the etiologic agent of the common cold is probably not a penicillin-sensitive organism. Secondary invaders undoubtedly account for the accentuation of the initial symptoms and in most instances for the more serious complications. Dramatic results often are seen in those patients in whom the cold has been hanging on."

As to the therapeutic effectiveness of inhaled penicillin dust, Krasno and Rhoads state "with assurance" that "bacterial infections of the nasopharynx, para-nasal sinuses, nasal mucosa, larynx and trachea of fairly recent origin, respond well to this form of treatment."

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®Trade Mark for Abbott Sifter Cartridge. AEROHALOR and AEROHALOR Cartridge patented in U. S. and Foreign Countries.

1. Krasno, L., and Rhoads, P. (1949), The Inhalation of Penicillin Dust; Its Proper Role in the Management of Respiratory Infections, Amer. Prac., 11:649, July.

ANNUAL MEETING PLANS NEAR COMPLETION

Arrangements for the 58th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 21-23, 1951, are nearing completion, Robert E. Funk, M.D., Tulsa, General Chairman, announced last month. The scientific program, featuring eight nationally known medical personalities as guest speakers, is complete and will be publicized in detail early in April.

Meanwhile, a first call for hotel reservations was issued by the Hotels Committee. Members planning to attend this convention are urged to use the detachable insert to be found in this issue of *The Journal* to reserve individual hotel accomodations. The Hotels Committee will handle all requests for rooms and members will save time by not writing directly to the hotels.

All of the convention's 35 commercial exhibit booths have been sold. A few spaces for scientific exhibits remain, but applications for such space must be received by March 15, 1951. Details of special entertainments and social features will be announced in the April issue of *The Journal* as well as the program of the Women's Auxiliary.

"With the present world outlook so uncertain, the 1951 convention of the Oklahoma State Medical Association may well be the last full-blown meeting which we can hold for several years," Doctor Funk said. "To that end a splendid program of scientific and social events has been arranged. In the event of war or the stringencies of preparing for war, we will have had a memorable annual meeting to sustain us until we can again meet in our customary fashion."

All specialty groups which will meet immediately before or after the meeting are requested to furnish details of their program to John G. Matt, M.D., Chairman of the Scientific Works Committee, so that it may be included in the official printed programs. Such information should be addressed to Doctor Matt, c/o Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa, Oklahoma.

Members of the Annual Meeting Committee for 1951 include Robert E. Funk, M.D., Chairman; John G. Matt, M.D., Felix R. Park, M.D., I. H. Nelson, M.D., Edward L. Moore, M.D., and John E. McDonald, M.D., all of Tulsa. All arrangements for the meeting are being handled by the Tulsa County Medical Society.

NATIONALLY KNOWN SPEAKERS TO APPEAR ON PROGRAM

The titles of 15 papers to be presented by eight nationally known medical personalities at the 59th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 21-23, 1951, were announced last month by the Scientific Works Committee. The speakers and their subjects are as follows:

Elliott P. Joslin, M.D., Professor of Medicine, Harvard University School of Medicine, Boston, Massachusetts, "The Younger Diabetic and the Control of His Disease With the Help of the Hospital Teaching Clinic".

Lester R. Dragstedt, M.D., Chairman and Professor of the Department of Surgery, University of Chicago, Chicago, Illinois, "An Appraisal of Gastric Vagotomy in the Treatment of Peptic Ulcer" and "Some New Contributions to the Physiology of Gastric Secretion and Their Relation to the Ulcer Problem."

Ramon Castroviejo, M.D., Professor of Ophthalmology, College of Physicians and Surgeons, Columbia University, New York, N. Y., "Corneal Transplantations" and "The Problem of Glaucoma."

John L. McKelvey, M.D., Professor of Obstetrics and Gynecology, School of Medicine, University of Minnesota, Minneapolis, Minnesota, "Significance and Techniques of Local Anesthesia in Obstetrics" and "Studies of Treatment Problems of Adenocarcinoma of Endometrium."

Anton J. Carlson, M.D., Professor of Physiology, University of Chicago, Chicago, Illinois, "Ignorance and Quackery in Medicine" and "Our Food And Our Future."

Harrison L. McLaughlin, M.D., Professor of Orthopedic Surgery, College of Physicians and Surgeons, Columbia University, "The Injured or Painful Shoulder" and "Injuries to the Region of the Ankle Joint."

Howard T. Karsner, M.D., Professor Emeritus of Pathology, Western Reserve University School of Medicine, and now Consultant to the Bureau of Medicine and Surgery, Department of the Navy, Washington, D.C., "General Pathology of Endocrine Tumors" and "Functioning Tumors of the Adrenal Gland."

James G. Hughes, M.D., Associate Professor of Pediatrics, University of Tennessee School of Medicine, Memphis, Tennessee, "Acute Nephritis" and "Surgical Conditions in the First Years of Life."

LAST CALL FOR SCIENTIFIC EXHIBITS

The final date for applications for scientific exhibits at the 58th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 21-23, 1951, has been extended to March 15, 1951, it was announced last month by John G. Matt, M.D., Tulsa, Chairman of the Scientific Works Committee.

All members of the Association planning to have scientific exhibits at the 1951 convention should request an application blank immediately by writing the Scientific Exhibits Committee, c/o Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa. A blank will be sent by return mail. These, in turn, should be completed by the applicant and returned by March 15. Applicants will be subsequently notified if their exhibits are accepted.

The attractive Emerald Room will be utilized exclusively for scientific exhibits. The Association will provide without charge an exhibit booth decorated in attractive velour by Dallas Meade Associates, official convention decorator. The costs of assembling, installing, and dismantling the exhibit are to be borne by the exhibitor, who must install his booth on Sunday, May 20, 1951.

"We are anxious for a wide response to our call for scientific exhibits," Doctor Matt said, "from the applications for exhibits already received they should be a major asset to the Meeting."

The scientific exhibits will be listed in the official program with the names of the exhibitors.

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FIGHTIN' TALK

At least 12 Oklahoma physicians are now in service who were not reported in February's Fightin' Talk.

Writing from Camp Drake, Japan, *Capt. James F. Hohl*, a University of Oklahoma School of Medicine graduate of 1944, notified the Executive Office that he was slated to leave the next day for Korea. Capt. Hohl received his training at Ft. Sill before going overseas. He formerly practiced in Norman.

Maj. A. M. Young, Oklahoma City physician, has been assigned to head up the urology service at Percy Jones General Hospital, Battle Creek, Michigan. Maj. Young was graduated from the O.U. School of Medicine in 1937.

Another Oklahoma City physician, *Capt. Thomas C. Points*, reported to Ft. Sill when he entered service February 6. Specializing in obstetrics and gynecology, he was graduated from the University of Oklahoma in 1941.

Six additional physicians reported February 6 and information at press time reported that all six would report to the Medical Field Service School, Fort Sam Houston, San Antonio, Texas. They are:

Lt. F. W. Coggins, Granite; *Lt. Kenneth L. Wright*, Tulsa; *Capt. Benjamin F. Gorrell*, Tulsa; *Lt. Royce B. Means*, Marietta; *Lt. Wm. H. Smith*, Lindsay; and *Lt. W. G. Husband, Jr.*, Elk City. Lieutenants Coggins, Smith, Means, and Husband are 1947 graduates of the University of Oklahoma School of Medicine. Lt. Wright was graduated from Tulane in 1947 and Capt. Gorrell, an E.E.N.T. specialist, was graduated from the University of Oklahoma in 1945.

Two Okeene physicians are now in the service. *D. L. Richardson, M.D.* has reported to Randolph Field, San Antonio, Texas for active duty with the Air Force. *R. A. McLauchlin, M.D.* is also in the Air Force stationed at Maxwell Air Base, Montgomery, Alabama. Doctor Richardson was graduated from the University of Oklahoma in 1947. He also holds a B.S. degree in chemistry and a master's in physiology. Doctor McLauchlin received his M.D. degree from the University of Oklahoma in 1948.

Now at Sheppard Field, Wichita Falls, Texas is *J. Hartwell Dunn, M.D.*, Oklahoma City. Doctor Dunn, a urologist, was graduated from the University of Tennessee in 1941 and during World War II spent two and one-half years at Ancon, Canal Zone with the public health service.

Where complete addresses and rank are omitted, that information was not available at press time. Any news about our physicians in the service will be welcomed and will appear in the earliest possible issue of the Journal.

OKLAHOMA ADVISORY COMMITTEE TO SURVEY HOSPITALS

The Oklahoma Voluntary Advisory Committee has been advised that it will be necessary that it survey and screen all Oklahoma hospitals who have approved internship and residency programs.

All hospitals have recently completed a detailed questionnaire concerning their present personnel and future needs to maintain adequate teaching and hospital care programs.

F. Redding Hood, M.D., Chairman of the Advisory Committee has pointed out that there will of necessity have to be a curtailment of the number of interns and residents allotted to approved hospitals. Doctor Hood points out that the intern and resident training programs of the hospitals of the United States have increased from 6,800 in 1940 to 17,500 at the present time.

M.D. REGISTRATION TOTALS OVER 600

Registration of physicians, dentists and veterinarians in the State of Oklahoma who were not required to register in the October 16, 1950, registration totaled 874 on the January 15, 1951 registration. A breakdown of the total shows 608 physicians, 210 dentists, and 56 veterinarians registered. Those who registered will be subject to the erquirements of their Selective Service boards until after they have passed their 51st birthday.

RESIDENTS AND INTERNS FACE EARLY MILITARY CALL

It has been announced by the National Advisory Committee to Selective Service that few, if any, interns in priority one and two will be deferred for additional residency training. Residents falling in the same priority will likewise not have additional deferment past their present contract year and are even subject to call prior to completion of their present contract unless they are in their last year of residency for board certification. The National Advisory Committee is advising all hospitals that they must secure their residents from that pool of physicians who fall in priority three and four.

Many inquiries have been directed to the Oklahoma Advisory Committee as to whether or not there is any likelihood that the internship and residency programs will be curtailed as in World War II. At the present time there is no indication that such accelerated training programs will be followed.

COMMITTEE TO WASHINGTON

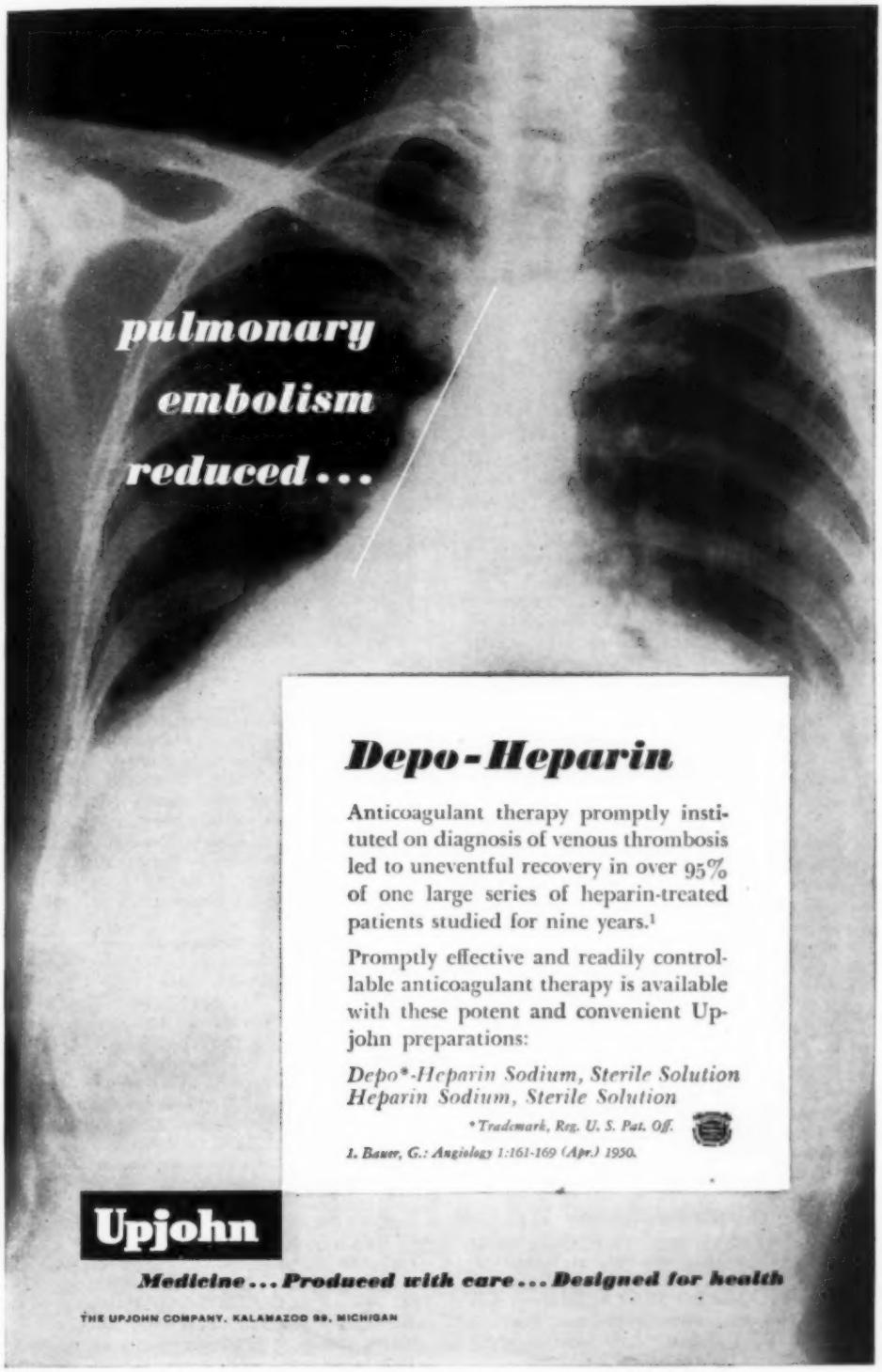
While in Washington attending meetings called by the National Advisory Committee to Selective Service, members of the Oklahoma Voluntary Advisory Committee had breakfast with the Oklahoma Congressional delegation and met with Mrs. Anna Rosenberg, Assistant Secretary of Defense. Problems of medical manpower in the present emergency were discussed. Members of the Oklahoma committee are F. Redding Hood, M.D., Chairman; Grady F. Mathews, M.D.; and Volney V. Jones, D.D.S., all of Oklahoma City.

PRE-MEDIC JURISDICTION LEFT TO LOCAL SS BOARD

Agitation by educational leaders for a liberalized deferment policy for qualified students planning a career in the professions has not materialized.

The Department of Defense is studying the problem but there are no indications that the present policy in effect will be materially changed. From several governmental quarters there has been discussed the feasibility of creating a pool of 75,000 qualified persons of draft age for deferment to assure a continued supply of students in the postgraduate fields. This number to be allotted to the states on this proportionate percentage of qualified male students in the draft age. So far this has not gone beyond the discussion stage.

Selective Service officials have pointed out that in regard to students for medical schools, that the medical schools today are privileged to secure deferment for 100 per cent more students than the latest entered class for the subsequent two years by giving students doing satisfactory work tentative letters of acceptance. This obviously means that the medical schools are forced to consider applications for medical school from the present junior and sophomore classes in colleges and universities.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1. Bauer, G.: Angiology 1:161-169 (Apr.) 1950.
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MEDICAL SOCIETIES AROUND THE STATE

Stephens County

Richard Ellis, M.D., Duncan, was elected 1951 president of the Stephens County Medical Society at the January meeting. Other new officers are W. K. Walker, M.D., Marlow, vice-president; and W. A. Heflin, M.D., Duncan, secretary-treasurer. Members of this society voted unanimously to cooperate with the Stephens County Red Cross in establishment of a walking blood bank for the county.

Northwest Counties

Shattuck physician, M. H. Newman, M.D., will head the county medical society for the five Northwest Counties in 1951. Other officers are F. E. Flack, M.D., Woodward, vice-president; Myron England, M.D., Woodward, secretary-treasurer. Following the election of officers at a recent meeting, "Techniques of the Treatment of Compulsive Neuroses" were discussed by Moorman P. Prosser, M.D., Oklahoma City. Fifty physicians, their wives, nurses and laboratory technicians were present at the meeting held in Fort Supply.

Payne-Pawnee

Following a buffet supper at the home of Mr. and Mrs. Leon Freed, Perkins, election of officers for the Payne-Pawnee County Medical Society was held. James D. Martin, M.D., is the new president and Edward Thorp, M.D., is secretary-treasurer. Both physicians are from Cushing.

Garfield-Kingfisher

Raymond G. Jacobs, M.D., Enid, will direct the Garfield Kingfisher County Medical Society as president for the present year. R. C. Baker, M.D., Enid, was re-elected secretary at the dinner meeting held at the Hotel Youngblood.

Tulsa County

Marshall O. Hart, M.D., Tulsa general practitioner, was named president-elect of the Tulsa County Society at the 1951 election of officers meeting. Other new officers are W. A. Showman, M.D., president; John G. Matt, M.D., vice-president; and Harold J. Black, M.D., secretary-treasurer

Washington-Nowata

Hillcrest County Club at Bartlesville was the setting for the installation banquet for the Washington-Nowata County Medical Society 1951 officers. R. J. Bogan, M.D., Bartlesville; was installed as president; E. E. Beechwood is vice-president; and F. C. Lawrence, M.D., the new secretary-treasurer. John E. McDonald, M.D., Tulsa, spoke to the group on "Public Relations in the Practice of Medicine". Another speaker was Elizabeth Chamberlin, M.D., Bartlesville who told the group about her recent trip to Europe. Dr. and Mrs. Ralph McGill, Tulsa, were guests at the meeting.

Kay-Noble

By unanimous vote at a recent meeting of the Kay-Noble County Medical Society, a plan was approved for the Kay county health department to aid doctors in improved medical services to indigent patients in Kay county by making available certain x-ray, laboratory and other tests at no cost to the patients.

Kiowa-Washita

A joint dinner meeting of the Kiowa-Washita County Medical Society and Auxiliary was held at Hobart recently. At the election of officers, Aubrey E. Stowers, M.D., was elected President and James F. McMurry was elected secretary-treasurer. Both are from Sentinel. Jerome Ambrister, M.D., Hobart, is the new vice-president.

Carter-Love-Marshall

Life Memberships in the Oklahoma State Medical Association were presented to H. A. Higgins, M.D., and

Pictured above are Mrs. Higgins and H. A. Higgins, M.D., Walter Hardy, M.D. (seated) and Mrs. Hardy.

Walter Hardy, M.D., both of Ardmore, at a meeting of the Carter-Love-Marshall Medical Society held at the Dornick Hills Country Club. Presentations were made by J. Hobson Veazey, M.D., Ardmore, Councilor for that district. Picture of Drs. Hardy, Higgins and Veazey appears elsewhere on this page.

Lincoln County

Members of the Lincoln County Medical Society met in Wellston January 11 at the home of Para Erwin, M.D., for a birthday dinner given in honor of Doctor Erwin.

Oklahoma County

Rabbi Isrnel Chodos was the dinner speaker at the annual inaugural dinner-dance of the Oklahoma County Medical Society January 13, 1951. Onis Hazel, M.D., who acted as toastmaster, presented Oklahoma State Medical Association Fifty Year Pins to Lea Riely, M.D., John Pine, M.D., (in absentia) Leila Andrews, M.D., William M. Taylor, M.D., and Everett S. Lain, M.D. (as Doctor Lain was unable to be present the pin was presented to his daughter, Mrs. Onis G. Hazel). In addition to 50 Year Pins, Life Membership certificates were presented to Doctors Andrews, Taylor and Pine. W. W. Rucks, M.D., who has already received a 50 Year Pin, was awarded a Life Membership and although they were unable to be present, Life Memberships were given to Wilson D. Baird, M.D. (another 50 Year Club Member); M. V. Moth, M.D., James E. Harbison, M.D., Fenton M. Sanger, M.D., Paul E. Haskett, M.D., Robert M. Howard, M.D.; and Joseph T. Martin, M.D. Doctor Harbison is also a 50 Year Club member.

New officers of Oklahoma County are Floyd Moorman, M.D., President; Ralph A. Smith, M.D., president-elect; Walter H. Dersch, M.D., vice-president; and P. K. Graening, M.D., secretary-treasurer.

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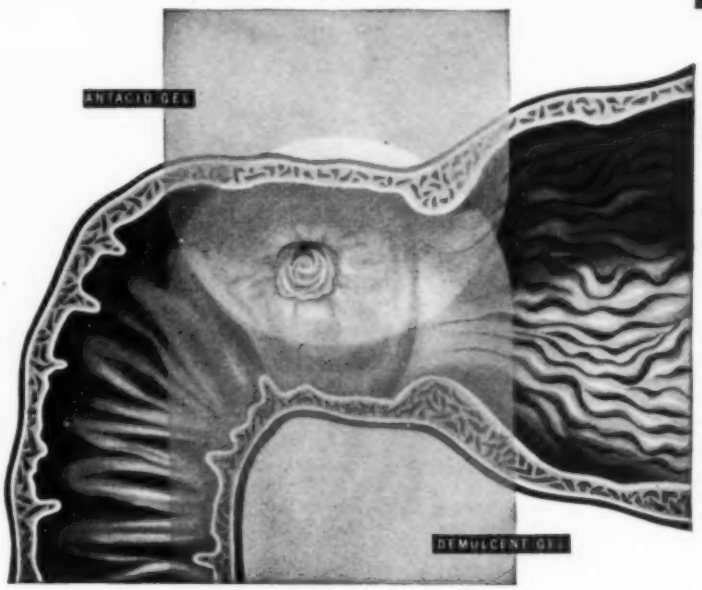

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That More May Know

Work is now under way in the Oklahoma Medical Research Foundation with a nucleus of a permanent staff on the job and 15 laboratories occupied.

Dr. Edward C. Reifenstein, Jr., who came to the organization November 1, as Director of the Research Institute, has immediately concentrated his work on securing a permanent staff. At this time it consists of Dr. Max N. Huffman, a biochemist and Dr. Charles D. Kochakian, an enzyme chemist. Negotiations are nearing completion to add a well known scientist who is interested in metabolic bone disease, which is also the primary interest of Doctor Reifenstein.

In keeping with the plans for the Foundation, from its beginning, space has been made available for part-time research by qualified personnel living in Oklahoma. Under this category, three faculty members of the School of Medicine of the University of Oklahoma have laboratory space in the Foundation building. They are Dr. Corinne Keaty, Dr. Allan J. Stanley and Dr. A. N. Taylor, of the Department of Physiology. Dr. M. R. Shetlar, who also teaches at the School of Medicine, is Director of Research of the Veterans Administration, has a suite of laboratories.

Doctor Reifenstein has explained that the long range program of the Research Institutehas not yet been developed and will not be until the permanent staff is assembled and has had a chance to work out the specific projects. However, the basic aim of the institution is to work in the field of gerontology and Doctor Reifenstein has indicated he desires three principle departments; one in cardiology; one in oncology and one on metabolic bone diseases.

The son of a prominent physician in Syracuse, N. Y., Doctor Reifenstein received his M.D. degree from the University of Syracuse, School of Medicine, in 1934. After several years' practice with his father, specializing in internal medicine and psychiatry, he joined Dr. Fuller Albright at Massachusetts General Hospital in Boston in 1940, and spent six years with him doing advanced research in endocrinology and metabolic bone disorders.

Since 1946, Doctor Reifenstein has been in New York City as Consultant and later Research Associate at the Sloan-Kettering Institute of the Memorial Hospital Cancer Center, where he conducted investigations on the endocrine aspects of cancer. For the past four years he also has been Consultant and later Executive Director of the Medical and Research Division of Ayerst, McKenna & Harrisen, Limited of Montreal and New York, pharmaceutical company.

Edward C. Reifenstein, Jr., M.D.
New Oklahoma Medical Research Foundation Director

Doctor Kochakian came to the Foundation in January. He was Associate Professor of Physiology in the School of Medicine and Dentistry at the University of Rochester, Rochester, N. Y. He received his master's degree from Boston University in 1931 and his Ph.D. degree in physiological chemistry from the University of Rochester in 1936. He is one of the outstanding chemists in the field of enzymes.

The first scientist to join the Foundation staff was Dr. Max N. Huffman. He is a graduate of the University of Missouri, with a Ph.D. from St. Louis University. He trained under Professor Edward A. Doisy, Nobel laureate in medicine, and served a fellowship in biochemistry at Columbia's College of Physicians and Surgeons. Before coming here, Dr. Huffman was a Research Professor at Southwestern Medical College, Dallas, Texas.

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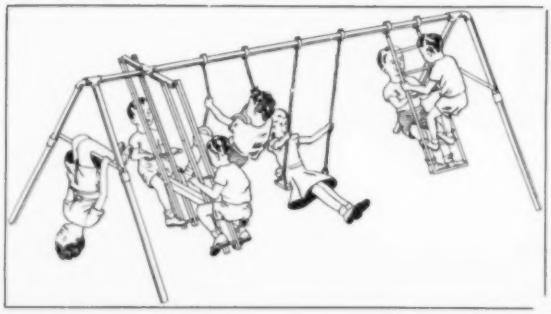

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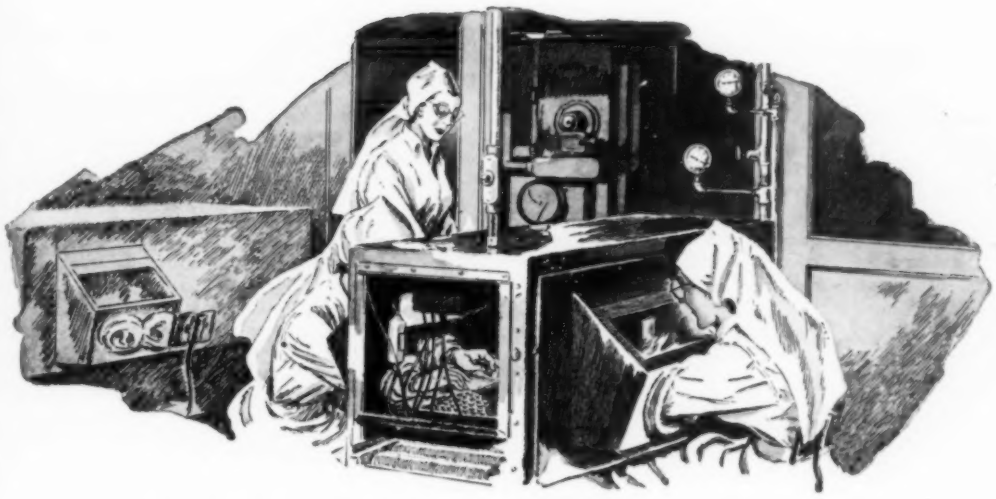

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Relationship of Stress to Autonomic Lability

Studies in psychosomatics have shown that functional disorders often are a result of the patient's inability to adjust to emotionally stressful situations (stressor factors).

Nervous tension and chronic anxiety, discharged through a labile Autonomic Nervous System, can cause somatic disturbance. [1,2] Such states may involve any one of the organ systems or several at one time. [1,3] The outline below is designed to relate gastrointestinal and cardiovascular symptomatology to the exaggerated response of the autonomic nervous system.

	Physiologic Effects of Autonomic Discharge	
	Sympathetic	Parasympathetic
Gastro-intestinal System	Hypomotility Intestinal Atony Hyposecretion Reduced salivation	Hypermotility Gastrointestinal spasm Hypersecretion
Cardio-vascular System	Rapid heart rate Peripheral vaso-constriction	Slow heart rate Vasodilatation
Functional Manifesta-tions	Palpitation Tachycardia Elevated blood pressure Dry mouth and throat	Heartburn Nausea-vomiting Low blood pressure Colonic spasm

The data here tabulated is from references [3,4,5,6,7] given below.

When the clinical picture is suggestive of functional disorder, the diagnosis is supported by the presence of the following indications of autonomic lability:

Variable Blood Pressure
Body Temperature Variations
Changing pulse rate
Deviations in B. M. R.
Exaggerated Cold Pressure Reflex
Oculo-Cardiac Reflex Abnormalities
Glucose Tolerance Alterations

Therapy in these cases is directed toward: 1) relieving the somatic disturbance to prepare the patient for psychotherapy*; 2) guidance in making adjustment to stressful situations and correction of unhealthy attitudes.

*Drug treatment using adrenergic and cholinergic blocking agents in conjunction with sedatives. [8,9,10]

1. Ebaugh, F.: Postgrad. Med. *4:* 208, 1948. 2. Wilbur, D.: J.A.M.A. *141:* 1199, 1949. 3. Williams, E. and Carmichael, C.: J. Nat'l. Med. Assoc. *42:* 32, 1950. 4. Goodman, L. and Gilman, A.: The Pharmacological Basis of Therapeutics, The Macmillan Co., 1941. 5. Katz, L. et al: Ann. Int. Med. *27:* 261, 1947. 6. Weiss, E. et al: Am. J. Psychiat. *107:* 264, 1950. 7. Alvarez, W.: Chicago Med. Soc. Bulletin, 581, 1950. 8. Rakoff, A.: A Course in Practical Therapeutics, Williams and Wilkins, 1948. 9. Karnosh, L. and Zucker, E.: A Handbook of Psychiatry. C. V. Mosby Co., 1945. 10. Harris, L.: Canad. M.A.J. *58:* 251, 1948.

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BOOK

PRINCIPLES AND PRACTICE OF SURGERY. Jacob K. Berman, A.B., M.D., F.A.C.S., 429 illustrations, 1378 pages. St. Louis, C. V. Mosby Company, Price $15.00.

This volume is primarily intended as a textbook for medical students, and is one of the best for this purpose published in recent years. Most authors, in writing for students, tend to omit recent work in the field of surgery for fear of confusing the student, or because some of these ideas may not stand the test of time. Doctor Berman has succeeded very well in striking a happy medium in making the book as timely as possible, without including controversial or doubtful theories. The extensive bibliography, and the recent articles included show that he has spent much time and care in covering the literature. In recent years, the basic sciences have become more and more important in the care of the surgical patient, and Doctor Berman emphasizes these in a very interesting manner accompanied by diagrams which are easy to remember. He also correlates the truths we have learned in the basic sciences very well with the practical side of surgery.

One of the chapters is labeled "The Human Constitution", which tries to explain what older men have learned, that is, the ability to look at a person, and predict his reaction to surgery. There is also an excellent chapter on surgery of the circulatory system, including the diagnosis and treatment of the various anomalies of the heart and great vessels. The relationship of the newer steroids to surgery is adequately discussed. In addition to these newer fields, the so-called "conquered ground" of surgery is outlined and discussed, in a brief but thoroughly understandable, way.

This book is an excellent reference for any doctor's desk.—S. N. Stone, M.D.

THORACIC SURGERY Richard H. Sweet, M. D., Philadelphia. W. B. Saunders Co. 1950.

This first edition of Doctor Sweet's book on thoracic surgery fills a definite need in this rapidly advancing specialty. It is written in a concise, readable manner with an excellent choice of subsequent material.

The emphasis is placed on operative technique, however other basic considerations including pertinent surgical anatomy, the management of difficulties encountered and the post operative care of the patient have not been neglected. He has given thorough consideration only to those operations which he has found useful in his own practice thereby making this book practical. One can consult it and find the information desired without reading unrelated details.

Thoracic surgeons have felt the need of a book covering the operative procedures in this field and Doctor Sweet has provided for our need in an excellent publication. I believe this book will be useful not only to the thoracic surgeon but also to the qualified general surgeon who is called on to do chest surgical procedures.—Edwin Fair, M.D.

REVIEWS

SURGERY OF THE SHOULDER, by D. F. DePalma, M.D., 438 pages. J. B. Lippincott Company, 1950.

Those physicians who have been fortunate enough to have been able to study the copy of the book by Dr. E. A. Codman, published in 1934 entitled "The Shoulder" will greatly welcome this newest edition to literature on this most complicated of joints. The author has spared no effort to make his book a complete compendium of all available knowledge about the shoulder joint. From the first chapter, which takes up in much interesting detail, the origin and comparative anatomy of the "pectoral limb", to the last division which considers in detail most of the surgical approaches to the shoulder, the material is presented in such a way, that the author leaves no doubt as to his own personal views about the various controversial subjects, but at the same time presents other various view points in a very interesting manner.

Those interested in the anatomy of the shoulder joint will find Chapter II an extremely enlightening portion of the book. The illustrations are unusually good and follow recent trends in medical literature by actually presenting a pictorial concept of the area rather than a dry anatomic outline of the origin and attachment of various structures. I find of extreme interest the section on regional anatomy, particularly the description of the various ligaments and bursae about the shoulder joint. Anyone who has had an occasion to treat the very common condition known as "frozen shoulder" or "subdeltoid bursitis" or "peri-arthritis of the shoulder" will find division five, which considers these various phenomena, extremely enlightening. The author does not hesitate to express his opinions very forcefully about some of the mal-treatment that these conditions have received in the past. While the chapter about dislocations and fractures about the shoulder is equally well written this material is of course available in other books and so it did not occur to me as being as vital for this work as some of the other divisions. There is a very well illustrated division on bone tumors about the shoulder. Again, this work is available in other general texts of bone tumors and there is nothing particularly outstanding. The division on surgical approaches presents in one book a general discussion of many different operations which are commonly described and commonly discussed together with the indication and contra-indication and advantages and disadvantages of each.

For the orthopedist, or one who does a considerable degree of traumatic surgery, this book certainly should be of extreme value and should be considered a must. To others who deal with this area somewhat less frequently it will be an extremely valuable reference book since it describes in great detail almost all the known lesions about the shoulder and since it was written in 1950 it is absolutely up to date. It describes well the various points of view and the various treatments recommended for different conditions about the shoulder. This is an extremely valuable work, very well edited, unusually well illustrated, with clear readable type, and has a very interesting presentation of subject matter. I recommend it very highly.—Don H. O'Donoghue, M.D.

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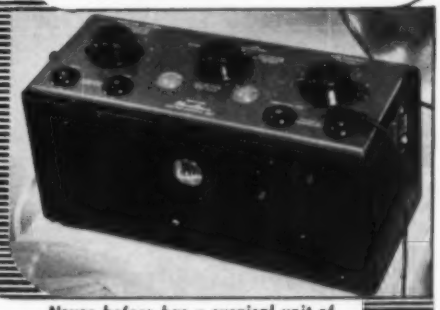

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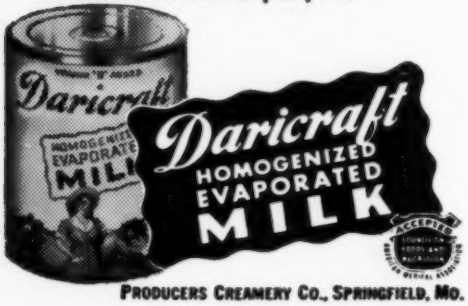

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ANNOUNCEMENTS

OKLAHOMA STATE MEDICAL ASSOCIATION. 58th Annual Meeting, Tulsa, Oklahoma, May 21, 22, 23, 1951. Mayo Hotel. House of Delegates May 20.

CHICAGO MEDICAL SOCIETY. Annual Clinical Conference March 6, 7, 8, 9, 1951. Palmer House, Chicago.

SOUTHWEST ALLERGY FORUM. San Antonio, Texas, April 8, 9, 10, 1951, Plaza Hotel. Any practitioner in allergy is invited to attend.

THIRD WESTERN INSTITUTE ON EPILEPSY. June 15-17, 1951, Salt Lake City, Utah. Further information may be obtained by writing to Dr. Harriot Hunter, University of Colorado Medical Center, 4200 East 9th Ave., Denver, Colo., or Dr. Jean P. Davis, University of Utah College of Medicine, Salt Lake City, Utah.

AMERICAN SOCIETY FOR THE STUDY OF STERILITY. Ritz Carlton Hotel, Atlantic City, New Jersey, June 9 and 10, 1951. Address requests for advance registrations to the American Society for the Study of Sterility, 20 Magnolia Terrace, Springfield, Mass.

NORTH TEXAS-SOUTHERN OKLAHOMA Fall Clinical Conference. Wichita Falls, Texas, September 19, 1951. W. L. Powers, M.D., 517 Hamilton Building, Wichita Falls, Chairman.

THIRD ANNUAL NEUROPSYCHIATRIC MEETING. Veterans Administration Hospital, North Little Rock, Arkansas, March 1 and 2. The hospital will be observing its 30th anniversary year at the time of the meeting and many former staff members are expected to return.

AMERICAN ACADEMY OF GENERAL PRACTICE. 1951 Scientific Assembly, Civic Auditorium, San Francisco March 19-22, 1951.

INTERNATIONAL ACADEMY OF PROCTOLOGY. Teaching seminar, New York City April 7, 1951. For registration and further information write Dr. William Lieberman, Chairman, Seminar Committee, International Academy of Proctology, 1819 Broadway, New York 23, N. Y.

OKLAHOMA ACADEMY OF GENERAL PRACTICE. Third Annual Meeting April 16 and 17, Hotel Youngblood, Enid, Oklahoma.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY. At a special meeting of the board December 14, 1950, the following changes in the regulations of the Board were unanimously adopted:

1. That physicians otherwise qualified, who were graduated before January 1, 1939 and whose required training was in obstetrics or gynecology alone, and who have confined their practice to obstetrics or gynecology for at least five (5) years immediately prior to application be accepted for examination as candidates for certification in either obstetrics or gynecology. In all other respects requirements for eligibility remain the same for those physicians graduated since 1939. Bilateral training is required as published in the Bulletin of the Board.

2. Applicants who have been certified by one of the other American Specialty Examining Boards will not be eligible for certification by this Board until they have relinquished the certificate previously conferred.

3. Since the vast majority of obstetrical and gynecological cases are non-operative the Board requires adequate training in basic sciences, infertility, endocrinology, oncology, irradiation therapy, psychosomatic medicine, electrotherapy, and other non-operative methods of diagnosis and treatment as well as training in major operative procedures.—Paul Titus, M.D., Secretary

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OBITUARIES

LEROY H. SADLER, M.D.
1904-1951

LeRoy H. Sadler, M.D., prominent Oklahoma City physician, surgeon and gynecologist, died January 17 after being stricken January 11 with a cerebral hemorrhage.

Doctor Sadler was born May 31, 1904 in McAlester. He was graduated from the University of Oklahoma Medical School in 1929 after taking A.B. and B.S. degrees at Oklahoma City University and the University of Oklahoma. He was graduated with a master's degree in gynecology and obstetrics from the hospital of the University of Pennsylvania in 1931 and held a residency at Woman's hospital, New York City, until 1934 when he joined the staff of the Oklahoma medical school and established his practice with the late E. P. Allen, M.D.

Doctor Sadler was a fellow of the American College of Surgeons and a member of the American Board of Gynecology. Active in the Oklahoma County Medical Society and the Oklahoma State Medical Association, he was also a member of the Oklahoma City Clinical Society. He was one of the founders and a former steward of Crown Heights Methodist church. He was a member of Phi Beta Phi and Phi Chi medical fraternities, Delta Upsilon social fraternity, the Oklahoma City Golf and Country club, 75 club, Embassy club and a life member of the O.U. Alumni association. He had served on the chamber of commerce hospital committee. He was a lieutenant colonel in the army medical corps from April, 1941, to February, 1946.

Survivors include his widow of the home and two daughters, also of the home, one sister and a nephew.

J. B. LEISURE, M.D.
1877-1950

J. B. Leisure, 74, long time resident of Watonga, died December 17, 1950, in Kansas City. Doctor Leisure was visiting his sister in Kansas City when he became ill.

He was graduated from the St. Louis University School of Medicine in 1906. Doctor Leisure had been semi-retired since the middle 1930's.

Survivors include his widow, a step-daughter, three brothers and one sister.

F. W. ROGERS, M.D.
1874-1950

F. W. Rogers, M.D., practicing physician in Oklahoma for more than 50 years, died December 17 after an illness of more than a year. He never fully recovered from an attack of pneumonia contracted on a fishing trip in September, 1949.

Doctor Rogers was born in Van Zant County, Texas, April 8, 1874. The family moved to Oklahoma in 1889, locating near Pauls Valley. They moved to Tribbey in Pottawatomie county in 1892. After Doctor Rogers' marriage in 1901, he moved to New Mexico in 1905 and lived there 18 months before coming to Harmon County. He moved to Carnegie in December, 1909.

Doctor Rogers completed his medical education at Dallas and Columbia, Missouri. He was a deacon in the Baptist church and a member of the Odd Fellows. In 1950 he was awarded a 50 Year Pin and was made a life member of the Oklahoma State Medical Association.

Survivors are his widow of the home, one daughter, one brother and two sisters. Three grandchildren and two great-grandchildren also survive.

JOHN R. WALKER, M.D.
1875-1951

John R. Walker, M.D., an Enid physician for more than 30 years, died January 27 at his home in Enid. He retired four years ago because of ill health.

Doctor Walker, who specialized in E.E.N.T., served as secretary of the Garfield County Medical Society for 20 years. He was also a past president of the society. He was an active member of the University Place Christian Church, a Mason and a member of the Kiwanis Club.

He is survived by his widow of the home; two sons, Dr. J. Robert Walker, Oklahoma City, and John H. Walker, Enid, and four grandchildren.

COMMITTEES OF LEGISLATURE APPOINTED RECENTLY

Committees of both the House and Senate which will hear legislation that will be introduced concerning public health and medical care, as well as the laws governing the professions have been announced and are as follows:

Public Health Committee, House of Representatives — Chairman, Bill Burkhart, Hominy; Vice-Chairman, Valdhe F. Pitman, Hollis; and William L. Card, Medford; Glen C. Collins, Konawa; J. R. Hall, Jr., Fairland; Ira D. Humphreys, Chickasha; Clarence W. Meigs, Mutual; C. R. Nixon, Tulsa; Tom Stevens, Shawnee; and Robert S. Taylor, Perry.

Public Health Committee, Senate — Chairman, Oliver C. Walker, Dale; Vice-Chairman, Louis A. Ritzhaupt, M.D., Guthrie; and Henry Cooper, Atoka; Stanley Coppock, Cleo Springs; and Claude Seaman, Waynoka.

Appropriations Committee, Senate — Chairman, Raymond Gary, Madill; and Vice-Chairman, Everett S. Collins, Sapulpa.

Appropriations Committee, House — Chairman, W. H. Langley, Stillwell; and Vice-Chairman, Paul Harkey, Idabel.

Professional and Occupational Regulations Committee, House — Chairman, T. K. Klinglesmith, Centrahoma; and Vice-Chairman, J. W. Huff, Ada.

Physicians who are acquainted with the Senators and Representatives on these committees should feel privileged to contact them concerning legislation that will act to improve the health and welfare of the people.

At the time of going to press, no legislation had been introduced that on the face of it, seemed to lower the present standards of health care for the people of Oklahoma.

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*Hill, L. W.: New England J. Med. 242:288, 1950

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HAVE YOU HEARD?

Roy E. Newman, M.D., Shattuck, has received an appointment to a radiology fellowship at the University of Pennsylvania, Philadelphia.

George S. Baxter, M.D., Shawnee, was honored by the First Baptist church of that city on the anniversary of his 72nd birthday and a quarter of a century as teacher of the Baxter Bible class.

K. W. Navin, M.D., Shawnee, was guest speaker at the Earlsboro BPW club. He spoke on "Community Health".

J. B. Lansden, M.D., Granite, was honored at an open house on the 50th anniversary of his medical career.

Van S. Parmley, M.D., Mangum, discussed the March of Dimes campaign at a meeting of Edison school patrons recently.

Morris Fishbein, M.D., former editor of the A.M.A. Journal, spoke to the Ada Knife and Fork club at a January meeting.

Robert Johnson, M.D., was guest speaker at a meeting of the Sand Springs Rotary club when the crippled children's committee was in charge of the program.

J. W. Parker, M.D., Elk City, was elected president of the Elk City Alumni and Former Students association.

E. C. Mohler, M.D., Ponca City, has been elected chief of the staff at the Ponca City Hospital.

C. M. O'Leary, M.D., Oklahoma City, spoke on Surgery of Common Duct at the Muskogee Veterans Hospital recently.

Harry Barnes, M.D., Oklahoma City, said "people who reach the age of 65 should not be thrown on life's discard pile" when he spoke to members of the Kay county council of social agencies.

ON THE MILITARY PICTURE

One of the latest additions to the program is the address by Paul I. Robinson, Brigadier General, MC, Chief, Personnel Division. Gen. Robinson will present a picture of the military medical situation as it exists at that time, including need for medical officers, commissioning of civilian physicians, assignments and other facts pertinent at that time. Title of his paper is "The Army Medical Situation".

THE JOURNAL
of the
OKLAHOMA STATE MEDICAL ASSOCIATION

EDITORIALS

RELIGION IN MEDICINE

Having recently read the life of Dr. John Brown (1810-93), the famous family physician of Edinburgh, and the author of "Rab and His Friends" and having recalled the many great physicians who believed in God and were willing to "say so" the writer is in a militant mood with reference to the relation of religion in the practice of medicine. Though these editorial remarks are based largely upon accumulated experience, the decision to record them has been motivated by additional reading stimulated to some extent by the above mentioned story of Dr. John Brown.

For the benefit of those who desire more information or those who doubt, the following books are recommended: The Gifford lectures by Dixon[1] under the title, *The Human Situation*, moderately metaphysical, provokingly profound and highly profitable; *The Ladder of Light* by Walker[2] based upon the Beatitudes and offering a safe way up with few metaphysical burdens and finally *The Ethical Bosis of Medical Practice* by Sperry[3], Dean of the Harvard Divinity School. The latter grew out of lectures given to house officers at the Massachusetts General Hospital. In this little volume, this distinguished theologian and pastor points out the important relationship which should exist between God, the patient, the physician and the pastor when the latter enters the picture. Always there is God, the patient and the physician. The experience of Dean Sperry at the Massachusetts General Hospital and the interest aroused among members of the medical profession throughout the United States by his reporting of this experience indicates that the pastor should be in on a much larger per cent of the cases. Repeatedly, the writer has said that the successful physician, whether he knows it or not, becomes a good neuropsychiatrist but there are times when he and God sitting at the bedside, with death sleuthing about, might find the presence of the pastor most helpful.

His biographer[4] said of Dr. John Brown, "There was something very Christ-like in his nature and this did not arise from anything timid or unmanly in his character" . . . "In trouble or sorrow, it is almost needless to say that he had the almost unconscious art of creating an atmosphere of cheer around the sufferer, who was comforted, he scarcely knew how, for there were no comforting 'considerations' thrust upon him. Comfort came in some indirect way, without being announced, and without any assumption on the part of the comforter. It was this which made his visit to the sick man better than the medicines which he gave him; and the languor and pain of the sick-bed were often relieved by the mere visit, or even by the expectation of it."

Of Sydenham John Brown said[5] "Human life was to him a sacred, a divine, as well as a curious thing, and he seems to have possessed through life, in rare acuteness, that sense of the value of what was at stake, or the perilous material he had to work in, and that gentleness and compassion for his suffering fellow-men, without which no man —be his intellect ever so transcendent, his learning ever so vast, his industry ever so accurate and inappeasable—need hope to be a great physician, much less a virtuous and honest man."

Many similar references could be cited in support of religion in medicine but space will not permit. The following lifted from *Pioneer Doctor*[6] will suffice: The physician must be ready to meet the needs of his patients as they come from every level of society, phychically geared to this fast-going, highly scientific, mechanistic age in which mankind has modified his religion in favor of the less satisfying guidance of science and reason. When faced with what they consider serious life hazards, patients, almost without exception, seem to suffer from an obvious sense of personal inadequacy and a need for an abiding faith in some unseen power. No doubt Ibsen had this in mind when one of his characters, under emotional strain, said: "Without a fixed point outside myself, I cannot exist!"

Even un-Christian, self-sufficient Goethe, when threatened with a destruction by a storm on the rocks of Capri, quieted his

terrified fellow passengers by urging them to pray and reminding them of Christ walking on the water.

Henry C. Link's[7] book, *The Return to Religion*, was inspired by a study of psychology as influenced by a long financial depression. He feels that the Bible remains one of the most promising texts for the solution of fundamental psychological conflicts. It is reported that shortly before his death, Dr. William J. Mayo said that regardless of what people think of religion, he had found that patients with some anchor outside themselves made life much easier for the doctor.

The wise physician knows that in certain types of people the religion of Christ and the obstinacy of human frailties may come together with such odds as to create grave psychological conflicts or to aggravate those already existing. Advisedly, in cases where remorse overwhelms the seat of reason, the physician may venture to cite Mark Twain's opinion of conscience: "Your conscience is a nuisance. A conscience is like a child. If you pet it and play with it and let it have everything it wants, it becomes spoiled and intrudes on all your amusements and most of your griefs. Treat your conscience as you would treat anything else. When it is rebellious, spank it—be severe with it, argue with it, prevent it from coming to play with you at all hours, and you will secure a good conscience; that is to say, a properly trained one. A spoiled one simply destroys all the pleasure in life.

Meeting the patient's needs by Mark Twain's artful management of a painful conscience is not unreligious, not beyond the pale of "faith, hope and charity". True religion is sufficiently flexible to reach every patient's psychological whims and the physician who does not gain access to the sacred precincts hidden beneath his patient's calvarium is missing one of the most fascinating functions of the patient-physician relationship. He is forfeiting the opportunity to harness the energy which generates the storms of frustration and motivates behavior, and thereby he is sacrificing a vital therapeutic force.

Recently across the aisle from my accustomed pew, three young men in the uniform of the U. S. artillery were eagerly appropriating their pastor's words while no doubt thinking of the uncertain immediate future. As I contemplated the possible plight of these young men, with Korean casualties in mind, I knew they would expect God to be the first on the ground and then in all probability, the doctor in the front line of the medical corps and later the chaplain. May our good providence preserve this sacred relationship both in peace time and in war. Through the loss of religious appeal and Christian practices, we may lose our professional freedom.

No doubt every doctor not a hopeless victim of egotism, who thinks he doesn't believe or who secretly believes and belies the fact by springing his quips about religion, suffers a self imposed psychological kick in the pants every night when he goes to bed, because of the day's shortcomings, and goes to work every morning with a determination to do better. This is the lash of his unacknowledged religious spirit.

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1. The Human Situation. W. Macneile Dixon. New York, Longmans, Green and Company, 1938.
2. The Ladder of Light. Harold B. Walker, New York, Fleming H. Revell Company, 1951. (to be reviewed in an early edition of *The Journal*)
3. The Ethical Basis of Medical Practice. Willard L. Sperry, Dean of the Harvard Divinity School with a foreword by J. Howard Means, M.D. New York, Paul B. Hoeber, Inc., 1950 (reviewed in August, 1950 issue of *The Journal*).
4. Dr. John Brown, a Biography and a Criticism. John Taylor Brown, LL.D., F.S.A. (Scot.), edited with a short sketch of the biographer by W. B. Dunlop, M.A., London, Adam and Charles Black, 1903.
5. Locke and Sydenham (Horae Subsecivae) and Other Papers. John Brown, M.D., L.L.D., etc., First Series, Fourth Edition. Edinburgh, David Douglas, 1882.
6. Pioneer Doctor. Lewis J. Moorman, M.D., University of Oklahoma Press, 1951.
7. The Return to Religion. Henry C. Link. The MacMillan Company 1941 (Re-issue of 1938).

WHAT WOULD GLADSTONE SAY IF HE WERE AT GUY'S TODAY

In an address at Guy's Hospital, 1890, the grand old man, William E. Gladstone, said, "Another point upon which I congratulate the profession is its independence. It does not rely on endowment, but on its own exertions directed to meeting human wants. There is no great profession which has so little to say to the public purse, and which so moderately and modestly dips its hand into that purse. It is not only in the interest of the public, but of the profession itself, that it is eminently self-supporting; and, rely upon it, that the principle of self-support does much to maintain its honour and independence, and to enable it to pursue its stately march in the times that have come and in the times that are coming, to form its own convictions, to act upon its own principles without fear or favour, for the general benefit of mankind."

It is doubtful if any profession in Great Britain today has so much to say to the public purse and so devastatingly dips into it. It is sad to contemplate the changes that have come to British medicine in 60 years. For us it is sadder still to think we are drifting down the same socialistic stream

as though there were no hazards ahead.

At the moment the independence, so praiseworthy in the eyes of Gladstone, is threatened in this country by two hazardous political hurdles. They are compulsory health insurance and subsidies for medical schools.

KARL MARX AND MEDICINE

This quotation from Karl Marx should help us to realize how limited is our vision and how poor our comprehension.

"For thousands of years medicine has united the aims and aspirations of the best and noblest of mankind. To depreciate its treasures is to discount all human endeavour and achievement as nought."

With the above in view, what has happened to medicine under Marxism seems the irony of fate. Something for our politicians to ponder.

SEE THE MEWLING ADMINISTRATOR "BAYING THE MOON"

A certain Washington bureaucrat and renegade from his own profession miscalled a security agent, has been horning in on the medical profession without any knowledge of its fundamental principles. Levelheaded members of the medical profession find it difficult to understand such behavior. Naturally the question arises: Is this plain imbecility or a planned maneuver for power on the part of one whom they suspect as being an obsessive compulsive psychopath. This suspicion seems to be justified by his rabblerousing ranting without regard for the truth when he addresses the public on the subject of compulsory health insurance.

Unwittingly he condemns the very instrument of his survival and the safety of his family now enjoying all the blessings medicine has provided under present methods of practice.

When he spews his spleen, he is spitting in his own face.

BRITISH MEDICINE AND THE CALAMITY OF COMPULSION

Times February 19 "Foreign News" devotes three pages to the meatless muddles of the Socialist government and closes with this from a British doctor, "The strain of living conditions is making people take sleeping tablets like a second vegetable." Unfortunately, a sound sleep on free seconal under the National Health Service brings surcease of short duration with the inevitable return to hunger and hopelessness. Indeed this is poor compensation for such calamity.

All this is reminiscent of the long standing quip, "the more good beefsteaks in Britain, the more brave soldiers." According to current reports, even the harassed hungry doctors would like to take a pill and sleep off this ugly nightmare. How about a lethal potion for the National Health Act.

BETTER BUSINESS BUREAU AND HEALTH CURES

It would be difficult to imagine better business sense than that employed by the Better Business Bureau when it planned and published "Facts You Should Know About Health Cures".

We bespeak a wide distribution of this valuable booklet which serves as a timely warning against vaunted cures for the various distressing ills which afflict the flesh and weigh upon the mind of man.

Physicians individually and through their organizations should lend every possible aid in support of this humanitarian gesture. All power to the Better Business Bureau.

LINGUISTIC MIRACLES

In *Pravda* the most widely read newspaper in the U.S.S.R. a series of articles on linguistics have appeared over the names of the following Soviet linguists: Chikobava, Meshchaninov, Dhemodanov, Vinogradov. The names of these experts suggest linguistic feats that would baffle the world's most gifted tongues. *VOKS Bulletin* 1950 indicates that J. Stalin participated in this discussion and his two contributions translated into English appear in *VOKS*. Considering the relative simplicity of his name one might expect relative simplicity in his use of language but after using up about 12 thousand words he fails to make a decisive point. There is a long discussion about what Marx thought and what other people thought he thought about language, always placing his own interpretation of Marx with a Stalinic finally. No doubt, he and other Socialists with naive expediency have placed their own linguistic twist on the following words uttered by their idol Karl Marx: "For thousands of years medicine has united the aims and aspirations of the best and noblest of mankind. To depreciate its treasures is to discount all human endeavor and achievement as nought."[1]

What they have done to medicine shows how little respect they have for the language of their god, Karl Marx.

1. For and Against Doctors by Robert Hutchison and G. M. Wauchope. William Wood and Company, Baltimore, page 144. 1935.

SCIENTIFIC ARTICLES

SOME MISCONCEPTIONS OF THE GASTRO-INTESTINAL TRACT IN CHILDREN*

JOHN S. BOUSLOG, M.D.
DENVER, COLO.

Medicine has passed through many eras, from the ancient empirical methods to the modern scientific study of man and his environment. Each era has added to the vast knowledge on which our present complex practice of medicine is based. However, even today we have not enough basic knowledge of man in health; that is, the normal man, and certainly there are many disease conditions which need elucidation.

The roentgenologic studies of the gastrointestinal tract of infants have been done by several investigators. The early work on this subject was carried out by Leven and Barrett[1] in Paris, quoted by Carman[2], and by Ladd[3], and Pisek and LeWald[4] in this country. Since that time, there have been many publications on similar studies. However, no matter who the essayist was, almost without exception, he based his conclusions on information and data obtained from consideration of the adult alimentary tract and its changes of form and reactions to disease.

There is considerable evidence at hand to make one feel that beside the diseases which arise and terminate in infancy, there are many diseases which have their origin in childhood. Very little effort has been expended to investigate the normal gastrointestinal tract of the infant and child and its early variations from the normal. In the beginning of sound scientific knowledge, animal investigations were the only source of information, hence conclusions as to human beings were drawn from known facts about the animal. That information combined with knowledge of adult pathological conditions, as noted during surgical procedures or at necropsy, or even perhaps as foreshadowed in roentgenographic examinations, has served to supply our conception of the child's anatomy and physiology. The development of the gastrointestinal tract is freely described in textbooks on embryology, but I was unable to find in the literature a study of the development from the fetal to the adult type. The authors usually make a comparison to the chick or pig but no one has followed the development from the human fetus through the complete cycle.

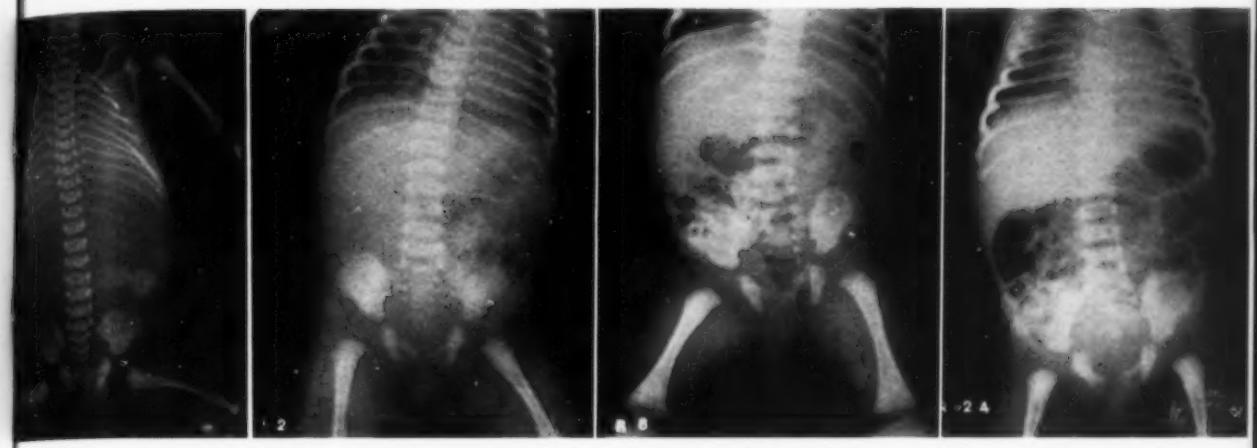
The development of man is divided by birth into prenatal and postnatal periods. At birth, the infant is sufficiently advanced to be reared outside the mother's body, yet its development is far from complete. In its new environment, differentiation and growth (especially marked changes in form and proportion) continue until the beginning of the third decade of life; only then is full size and mature structure attained. Like birth, puberty is best viewed as a transition point between other divisions rather than as a distinct stage in itself.

DIVISIONS OF THE LIFE SPAN OF MAN

- PRENATAL
  - Ovum—Fertilization to end of second week
  - Embryo—Third to eighth week inclusive
  - Fetus—Third to tenth month inclusive
- POSTNATAL
  - Newborn—Neonatal period: birth to end of second week
  - Infancy—Third week until assumption of erect posture (end of first year)
  - CHILDHOOD
    - Early—Deciduous period: second to sixth year inclusive
    - Middle—Permanent-tooth period: 7 to 9 or 10 years inclusive
    - Later—Prepubertal period: from 9 or 10 years to 12-15 years in female and 12-16 in male
  - Adolescence—The six years following puberty
  - ADULT
    - Prime and Transition—20 to 60 years
    - Old Age and Senescence—60 years to death

Examination of this chart of the divisions of human life gives a picture which can be

*Presented before the Section on Medicine at the Annual Meeting of the Oklahoma State Medical Association June 5, 1950.



1A 1B 1C 1D

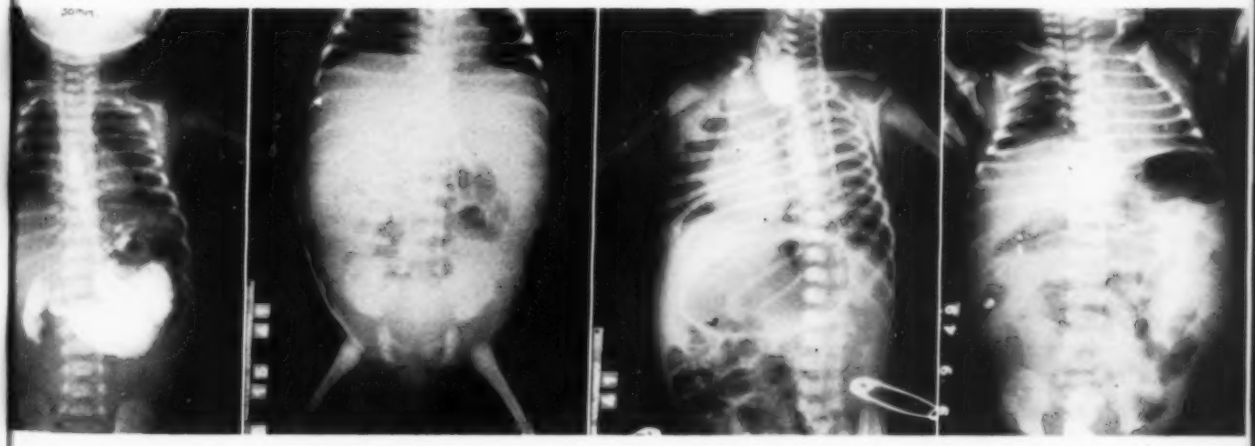
Fig. 1-A Roentgenogram of infant at birth. No air in lungs or gastrointestinal tract. Fig. 2-B. Two hours after normal birth. Air in stomach and upper small intestines on left side. Fig. 1-C. Same child as shown in Fig. 1-B, six hours after birth; air continuing through the intestinal tract. Fig. 1-D. Same child as shown in Fig. 1-B, 24 hours after birth; intestinal tract filled with air.

used in classifying the changes and disease. There is a progression of changes in development in life until we reach approximately 50 years of age, then there is a stationary period, and finally, there are some regressions, but these can all be classed as developmental changes.

In the roentgenological study of the infant's gastrointestinal tract one finds the pattern entirely different from that of the adult. The questions which then confront one are: why this difference, and what is its cause?

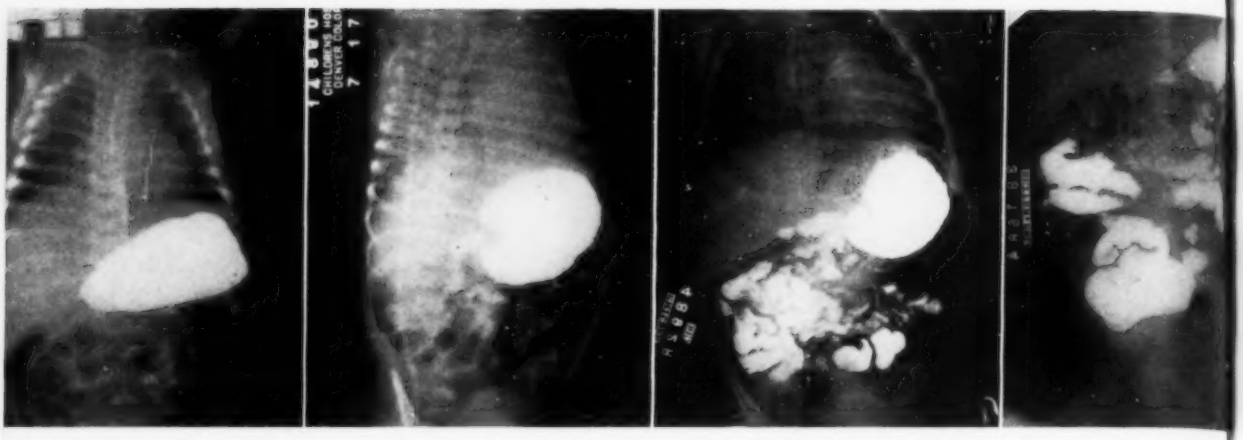
In early embryonic life the alimentary tract is a straight tube, and in his article "A Human Embryo with Seven Pairs of Somites Measuring about 2 mm. in Length", Dr. Dandy[5] illustrates it well. Although the embryology of the gastrointestinal tract is very interesting it is not particularly pertinent in this discussion, and I shall begin my description with the newborn.

A roentgenogram made at birth, before the child has taken a breath, shows the chest and abdomen as one dense shadow with no defining limits. (Fig. 1, A) Air enters both lungs and stomach with the first breath; with subsequent breathing, the air continues through the intestinal tract and in about 24 hours it reaches the rectum. (Fig. 1, B, C, D.) This important fact must be kept in mind constantly in studying abnormalities and disease at birth. In the child, one must have a thorough knowledge



2A 2B 3 4

Fig. 2-A. Roentgenogram of child five days old. Barium meal did not pass beyond duodenum; No air in the intestinal tract. Fig. 2-B. Roentgenogram eight days later (child now 13 days old and eight days after operation). Very little air in the intestinal tract; obstruction persisting apparently due to meconium. Fig. 3. Atresia of esophagus. Air in lungs and gastrointestinal tract indicating a communication between bronchus and intestine. Fig. 4. Typical gas pattern of meconium ileitis.



5A 5B 6A 6B

Fig. 5-A. Child aged 11 days. Postero-anterior view; stomach high and in transverse position, duodenum not visible. Fig. 5-B. Same child as in Fig. 5-A. Ten minutes later; oblique view, duodenum visible. Fig. 6-A. Child aged five months; one and one-half hour film; stomach high and duodenum on level of lower part of stomach; meal grouped and segmented in small intestines. Fig. 6-B. Child aged one year; four-hour film; stomach high and duodenum on level of lower part of stomach; intestinal pattern beginning to assume some of characteristics of adult pattern.

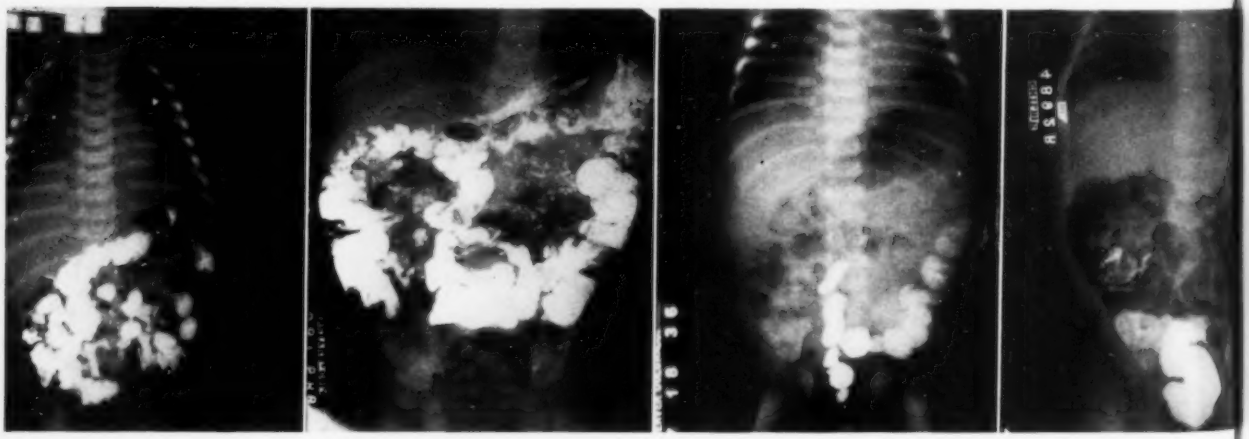
of the variations of shadows found in the normal. The value of familiarity with the gaseous pattern of the gastrointestinal tract is illustrated by the following case report:

A five-day old infant with vomiting and failure to evacuate was examined roentgenographically. The clinical diagnosis was atresia of the esophagus, but the roentgenogram showed no air in the intestinal tract below the upper jejunum. Consequently, the roentgenologic diagnosis was jejunal obstruction, and at operation volvulus with rotation of the jejunum was found. (Fig. 2, A, B).

Color is another index which may be of diagnostic significance. Meconium stains the colon a dark green, and in the case mentioned above, the colon was dark green in color. The surgeon was sure there was a lesion of the blood vessels, but I insisted the color was due to meconium and that the colon was normal. Necropsy findings bore me out.

In atresia of the esophagus, (Fig. 3) the air pattern is important, because if there is air in the intestinal tract there must be a connection between the bronchus and the intestinal tract. In imperforate anus, the gas pattern enables one to determine the length of the lesion, a point which is of prime importance for the surgeon before operation. Again, in meconium ileitis, (Fig. 4) the gas pattern is of diagnostic value.

The esophagus differs from the adult esophagus only in size, and as the child advances in age this difference disappears. The tendency of a nursing infant to swallow air



7A 7B 8A 8B

Fig. 7-A. Child aged 11 days; six-hour film; stomach practically empty; meal grouped and segmented, difficult to distinguish ileum and cecum. Fig. 7-B. Child aged one year; six-hour film; stomach practically empty; meal filling colon to splenic flexure; some grouping and segmentation of the meal in small intestines; ileum easily distinguishable from cecum. Fig. 8-A. Child aged 11 days. Twenty-eight hour film; some residue in lower left colon. Fig. 8-B. Child aged five months. Twenty-four hour film; small residue in cecal region; small amount of meal remaining in rectum.

is well known, and the bubbles of air passing down the esophagus should not cause errors in interpretation. In many cases, during swallowing, there is a widening of the esophagus just above the hiatus. This area corresponds to the phrenic ampulla of the adult, and this finding should not be considered pathological.

In the infant, the stomach is high in the abdomen, usually in the transverse position with the lower border of the greater curvature above the level of the third lumbar vertebra. (Fig. 5, A) It is usually in the second year that it begins to swing lower, probably as a result of change of posture because the child is walking. However, even in the adult, occasionally the stomach remains high and transverse. The stomach may assume any one of several shapes depending on the age of the child, the amount of air it contains, and the amount of the meal given. The appearance is never the same at all examinations. In the postero-anterior position, the stomach completely obscures the pylorus and duodenum. In the infant, the barium meal may be surrounded by the gas in the stomach; thus making diagnosis nearly impossible. I have found that this obstacle can usually be overcome by adding 5 cc. of a two per cent solution of gum arabic mixed with 8 gm. of barium to each ounce of the infant's usual formula.

The rugae cannot be visualized in early childhood, although they are present in the fetus at three months; even before the muscularis is developed. At birth the rugae are well defined, but they cannot be visualized until between two and three years of age. I attribute this to the musculation not being developed sufficiently to prevent the stomach's expanding with the barium meal. The stomach's emptying time varies in the infant from three to eight hours, and reexamination of the patient may show a variation in emptying time.

The pylorus does not appear to be as well marked in the infant as in the adult. The duodenum is difficult to visualize, because it lies posterior to the stomach which obscures it. However, visualization may be achieved by rotation of the infant's body about sixty degrees to the right (right oblique position, Fig. 5, B). Many times it is not visible until about one hour after administration of the meal. The usual triangular cap as seen in the adult is rare. The first portion of the duodenum fills in a horizontal position as a more or less straight tube and, as a rule, in the first few months of life, lies at the level of the first lumbar vertebra. According to Dr. Henderson's[6] report, he has been able to visualize the duodenum more frequently than I have. He states that the "shape is generally rounded or button like with smooth contours; occasionally a typical adult 'chocolate drop' shape is seen." The cap empties very rapidly, but if the meal has a tendency to remain in the cap a temporary duodenal stasis is suggested. The remainder of the duodenal loop and its relation to the stomach is the same as in the adult except that the mucosal pattern is not evident.

In the infant, the jejunum and ileum present entirely different patterns from those of the adult. The usual feathery (sometimes called "snow flake" appearance) of the jejunum seen in the adult is not observed in the infant. This begins to be noted when the child is about 18 months of age. The meal appears segmented and grouped, and the segments vary in size and shape with very little form. The segments may be grouped in various sections of the abdomen as the meal progresses. (Fig. 6, A & B) At other times, the barium collects in one or two long straight segments. The pattern varies in the individual cases. The child is usually about eight or nine years old before the adult pattern develops. Zwerling and Nelson[7] have made similar observations. Golden[8] is inclined to attribute such an abnormal intestinal pattern which may occur in an adult in a variety of clinical conditions to a deficiency of the vitamin B complex. I agree with his conclusion.

I do not believe we can call these intestinal patterns in early childhood necessarily indicative of abnormalities. These changes can easily be mistaken for the celiac syndrome. The exceedingly lively peristalsis of the small intestine is significant as regards the duration of the intestinal passage in the young infant. In these young subjects the meal is often at the cecum in one and one-half hours, and the small intestine is empty in five hours unless the stomach is slow in emptying. In the adult the time is usually about three hours to reach the cecum and from eight to 10 hours to empty.

The radiologist observing patients in early infancy may experience difficulty in determining whether the head of the barium meal is still in the ileum or whether it is in the colon. The caliber of the ileum and of the colon filled with the opaque meal is apt to be so nearly the same that the location of the barium may be very difficult. (Fig. 7, AB) Because of the segmentation of the

barium meal in the terminal ileum it is often difficult to outline it, and that part of the intestine, when it is visualized, appears dilated more than that of the adult. Again, this segmentation is a factor which makes it difficult to ascertain whether the barium meal is in the ileum or in the cecum. The reason for this segmentation of the barium meal is difference of structure of the intestinal tract in the infant and child from that in the adult.

Many observers have noticed the thin, paper-like consistency of the intestinal wall; on examination it reveals the following:

a. The mucosal folds and the valvulae conniventes are more abundant in childhood, but their lengths and heights are distinctly less than in the adult.
b. The mucus membrane is absolutely and relatively more developed than the muscular layer; it is very delicate and vascular, and more cellular than that of the adult.
c. The submucosa tissue is less in quantity and more delicate in character. The elastic fibers are feebly developed — a fact which explains the greater vulnerability of the infant's intestines than those of the adult. The muscularis shows a thickness equal to both the mucosa and submucosa.
d. The size of the villi and follicles is smaller in children than in the adult.

The appendix is hard to visualize. In 200 children I examined, I was only able to achieve filling in two cases at six weeks by oral administration of the meal. In the adult it is usually best visualized by means of oral administration of the opaque medium.

The colon is not continuously filled as in the adult. The meal is clumped and segmented through the colon. The flexures are high and the transverse colon does not swing low. The meal may be found in the colon two to three hours after its ingestion. At the end of six to eight hours the meal is often in the descending colon and sigmoid which may be more or less continuously filled. Motility in the infant colon is more rapid than in that of the adult. Instead of the colon being filled as in the adult at 24 hours, in the infant, it is usually empty, and if there is any meal remaining in the colon it is usually only small masses of barium here and there. (Fig. 8, A & B).

In the infant and child, the digestive activity of the large intestine plays only a subordinate role in comparison with that of the small intestine while in the adult it is there that we encounter many of the problems.

I think that the constipation observed in adults is a result of the stagnation of the lower part of the colon which began in infancy. Infants have an average of two stools per day, but the adult average is only one. That one stool does not empty the colon is proved by the barium meal remaining in the colon usually for 36 hours or more depending upon the degree of constipation. Often on questioning, the patient will deny being constipated, but the barium meal examination may reveal the fact that the colon does not empty even in 96 hours. If one studies the adults who have two evacuations per day, he finds that they do not have the toxic conditions so common in patients with constipation. Many of the toxic conditions appearing in childhood are probably due to constipation. Regular evacuation habits should be developed in both adults and children, and mothers must be taught that children should be properly trained. Thus, I am sure, many of our adult diseases can be eliminated.

The haustrations are said to be absent in the newborn, but they appear in the first months of postnatal life. This is not true, as they are present in our first examinations, namely, in babies of from 10 to 14 days of age. They are not as pronounced as in the adult, but one would not expect to find them so, due to the difference in the development of the mucosa, submucosa and muscularis, as previously described. There may be segments of the colon dilated with air in the young infant. It is very interesting to study the colon microscopically in the infant. The segment of colon that is dilated with air is of very thin, paper-like consistency which resembles that of colitis, but the next segment will appear perfectly normal. This is not present in the adult, which is probably due to the well developed mucosa, submucosa and especially the muscularis which prevent the over dilatation of the segments of the colon.

The gastrointestinal tract of the child has not received the same study as that of the adult. There are several reasons for this:

1. We have, in the past, been chiefly concerned with acute lesions of the gastrointestinal tract: those catastrophies which we are forced to witness in our daily practice.
2. It is difficult for any one radiologist to observe the gastrointestinal tract of a person over a period of years. In other words, we usually see the patient only once in most instances.

3. Children and young adults are usually in fairly good health, and therefore, do not seek examination. Any diseases they may have are often of a functional character and are usually overlooked by both parents and physician. These conditions are difficult to evaluate, either clinically or roentgenographically. If the gastrointestinal tract is in good physiological state, and there is proper elimination, there is no reason for consulting a physician.

Occasionally one is consulted by a mother because her child complains of pain in his legs or arms or of tiring easily. She attributes it to growing pains, and often dismisses it, but the condition may be due to a toxemia resulting from improper elimination. We have all seen cases in which a child complains of cramps in his abdomen, and he may even come in from play and lie down for a time. This should not be considered lightly, because the appendix may be the underlying cause. The child of one of my colleagues had a similar complaint. On examination, there was tenderness over the region of a poorly filling appendix and there was stasis of the colon. Removal of the appendix resulted in cessation of the symptoms.

It is the early disturbed physiology that causes many of our misconceptions of disease. The roentgen examination is the study of the living anatomy and physiology. We must acquaint ourselves with the normal structures and their functions as portrayed on the roentgen film in order to enable us to diagnose the early pathological conditions.

There are no adequate records of the events in the disturbance of the physiology of the gastrointestinal tract from childhood to adult life. Therefore, we cannot definitely determine the beginnings of disease in the adult gastrointestinal tract. It is this lack of knowledge that often leads us to the wrong diagnosis.

In conclusion, I wish to state that in discussing the gastrointestinal x-rays of infants and young children, one must always take into account the exact age of the patient as the position of the organs and their functions undergo continuous change. There is a progression of form and function of the gastrointestinal tract which takes place from birth until death, just as there is in all other systems.

Further studies, especially roentgenographically, are necessary to definitely portray not only the diseases of the gastrointestinal tract but also the anatomy and the physiological variations of anatomy throughout life. Thus, probably we would have more intelligent understanding of the chronic diseases in adult, and fewer misconceptions of disease at various periods of life.

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MEET OUR CONTRIBUTORS

William L. Waldrop, M.D. and *Howard B. Shorbe, M.D.*, are joint authors of "Flexion Treatment of Low Back Pain" in this issue. Both physicians were associated with Bone and Joint Hospital, Oklahoma City, at the time the article was written. Doctor Waldrop is now a captain in the medical corps stationed at Valley Forge Hospital in Pennsylvania. Doctor Waldrop is a member of the American Board of Orthopedic Surgery. Doctor Shorbe, a graduate of Northwestern University Medical School is a member of the Academy of Orthopedic Surgery. A veteran of 61 months service in Africa, Italy and France where he received the purple heart in World War II, he is now in practice in Oklahoma City.

John S. Bouslog, M.D., Denver, 1950 Annual Meeting guest speaker, has an article on "Some Misconceptions of the Gastro-Intestinal Tract in Children" appearing in this issue. Doctor Bouslog's biography also appeared in the January, 1951, issue of the *Journal*.

Kelly M. West, M.D., Boston, Mass. has an article in this issue on "NPH Insulin". Doctor West was graduated from the University of Oklahoma School of Medicine and interned at St. Luke's Hospital, Chicago and was medical resident at St. Anthony's, Oklahoma City. At present he is a fellow in internal medicine, service of Elliott P. Joslin, M.D., New England Deaconess Hospital, Boston, Mass.

Albert N. Lemoine, Jr., M.D., Kansas City, Mo., wrote "The Cross-Eyed Child" in the April issue. Doctor Lemoine was graduated from the University of Kansas School of Medicine in 1915. He is a member of the American Academy of Ophthalmology and Otolaryngology, American Ophthalmology Society and the Association for Research in Ophthalmology. He has been certified by the American Board of Ophthalmology.

NPH INSULIN

KELLY M. WEST, M.D.
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On October 16, 1950 NPH insulin became commercially available. It is marketed in both U-40 and U-80 strength at the same price as that of protamine zinc insulin. It is the purpose of this paper to suggest the place of this new insulin in the treatment of patients with diabetes mellitus.

The author's experience is derived from observation of patients under the care of the George F. Baker Clinic Group, Boston, Massachusetts, Elliott P. Joslin, M.D., Medical Director.

THE NATURE AND PERIOD OF ACTIVITY OF NPH INSULIN

The chemical nature of NPH insulin will not be discussed. Suffice it to say that it is an intermediate acting neutral preparation with 0.5 mg. of protamine per 100 units of insulin (protamine zinc insulin has 1.25 mg. per 100 units).

The blood sugar lowering effect of NPH insulin begins as early as two hours and gradually increases until a peak of activity is reached between eight and 16 hours following administration. Marble and Gabriele[1] in plotting blood sugar curves of 94 juvenile diabetics showed a tendency in many patients for the blood sugar to begin to rise at 5:00 A. M., thus demonstrating a weakening of effect about 22 hours following the injection. Appreciable effects can, however, be demonstrated for 28 to 30 hours.

WHO SHOULD TAKE NPH INSULIN?

Since single-injection success is greater with NPH insulin than with any other insulin, it would probably be fair to say that all new cases should be started on NPH insulin if insulin is indicated. It must be said, however, that there are many cases in the low-requirement group who can be well controlled with a single daily injection of protamine zinc insulin. Most of the cases requiring below 20 units can be properly controlled by a single daily dose of NPH, protamine, zinc, or globin insulin. As the total dosage increases the incidence of single injection success begins to decrease. This is relative however and it is possible to satisfy criteria of control in some cases with a single injection of NPH insulin even with a requirement greater than 100 units per day.

In those cases in which control has proved inadequate or difficult with a single injection or a combination of injections of other insulins trial with NPH insulin is indicated.

It is difficult to say whether or not well controlled cases on combination therapy should be changed. The factors which could influence the decision in a situation of this kind are as follows:

1. What are the possibilities of adequate control with NPH insulin? If it would appear that the time distribution of insulin need is such that NPH insulin would be successful, then one would be inclined to favor a change for convenience sake all other things being equal. For example, a person taking 10 units of crystalline (or regular) insulin* and 30 units of protamine zinc insulin before breakfast will have a very good chance of changing successfully to a single daily injection of NPH insulin but a patient needing 20 units of crystalline insulin and 20 units of protamine zinc insulin is likely to need more rapidly acting effect than NPH affords. In the latter instance, the addition of extra crystalline insulin in the same syringe with the NPH variety might permit control with one injection.

2. Will the process of changing be difficult? Patients requiring small amounts of insulin and patients having relatively stable diabetes are easily shifted to NPH insulin. In changing patients with large insulin requirements and in changing patients with labile diabetes the degree to which supervision is possible and the intelligence of the patient must be considered.

3. Does the patient consider his present program burdensome? If he does not and if control is satisfactory, then one would probably best let well enough alone.

OUTLINING THE NPH INSULIN PROGRAM

Needless to say, hospitalization during the initial period of NPH insulin therapy is highly desirable. In view of the fact that this is not always possible it is justifiable in selected cases to have the patient change at home by utilizing frequent urine tests and 24-hour urine sugar determinations. This should only be done after careful instruction from the physician.

*For all practical purposes regular (unmodified) insulin may be substituted for crystalline.

With most patients it is convenient to divide the total carbohydrate of the three main meals as follows: 20 per cent with breakfast, 40 per cent with lunch and 40 per cent with supper. A mid-afternoon feeding containing 15 to 20 grams of carbohydrate should be prescribed. The nature of this feeding depends to some degree on the situation of the patient. A housewife can easily take milk, or crackers and milk but this may not be convenient for the laborer, office worker or school child, so carbohydrate of a different nature may have to be substituted. A bedtime feeding containing 15 to 20 grams of carbohydrate is advisable. Including the between-meal feedings, a daily total of from 150 to 200 grams of carbohydrate will be appropriate for most adults.

New patients may be placed initially on an arbitrary amount of NPH insulin (usually 8 to 16 units daily) depending on the original degree of hyperglycemia. A conservative estimate of the insulin need having been made, this amount if inadequate is raised a few units each day or every other day until the diabetes has been brought under control. In seeking the proper insulin dose it is usually wise to make increases by two or four units; in some cases, however, relatively greater increments are necessary. Having outlined the program roughly as above one can expect a single injection of NPH insulin to control the majority of patients.

ADJUSTING THE NPH INSULIN PROGRAM

The use of NPH insulin eliminates many of the problems which at times obstruct smooth control with the older preparations. There are, however, certain general patterns of difficulty which may arise in patients starting on a program of NPH insulin therapy. These problems are usually easily surmounted and may be deduced by considering the time-action curve of the preparation as stated above.

The first and most common difficulty results simply from failing to achieve a satisfactory blood sugar level before the noon meal. There are various ways of getting around this situation. One can reduce the amount of carbohydrate given at breakfast. One can add to the mid-afternoon and bedtime feedings in order to be able to increase the dosage safely and consequently obtain more forenoon activity. Although it is not convenient in most cases it is sometimes possible to give the insulin one or two hours before breakfast. Lastly, one might add to the NPH insulin (in the same syringe) a small amount of crystalline insulin. It has now been shown that these two insulins when mixed together maintain most of their separate activity characteristics. Thus no significant advantage is gained in giving them separately if they are correctly measured. There are a few cases in which satisfactory blood sugar levels are obtained before lunch despite the fact that appreciable amounts of sugar are excreted after breakfast. The urine test just before the noon meal may or may not show this sugar. It is in this even that the 24-hour urine specimen may afford an even better index of control than is furnished by blood sugar levels before meals.

A second difficulty which may arise is one in which satisfactory fasting blood sugar levels cannot be attained without producing reactions in the late afternoon. Adding food to the noon meal and inserting additional carbohydrate in the afternoon will often but not invariably correct this situation. Infrequently, omitting the bedtime lunch will be advisable.

A third type of problem which occasionally arises is one in which satisfactory control cannot be attained without producing night reactions. This pattern occurs in patients who require a good deal of insulin during the day and relatively little during the night. These cases (often juvenile diabetics) can usually be controlled by a mixture of NPH insulin and crystalline insulin but occasionally it is necessary to prescribe a program of protamine zinc insulin and crystalline insulin administered as separate injections before breakfast with the ratio of crystalline insulin to protamine zinc insulin being relatively greater than usual.

A few patients with highly labile diabetes respond somewhat better to separate injections of crystalline insulin and protamine zinc insulin than they do to NPH insulin.

It should be remembered that if in making various shifts of the patient's plan of living one produces inconvenience then the original purpose is not served. For example, there are certainly many patients who would gladly take two injections or mix two insulins rather than to give up part of the breakfast or take the trouble to eat in the afternoon.

One hundred consecutive charts of patients taking NPH insulin were recently reviewed at the New England Deaconess Hospital. In 61 cases a single dose of NPH insulin had been ordered. In 39 cases a mix-

ture of crystalline and NPH insulin had been prescribed.

CHANGING TO NPH INSULIN

Having made the decision to change to NPH insulin from another insulin program, how may this be accomplished? If the patient is taking a single injection of protamine zinc insulin of less than 20 units, a similar amount of NPH insulin can usually be substituted. In changing patients on relatively larger amounts of protamine zinc insulin it is wise to take into consideration the overlap activity of protamine zinc insulin which remains during the period of 24 to 36 hours following injection. Thus in changing to NPH insulin it is often necessary to give the first day an amount of NPH insulin relatively less than the dose which will eventually be appropriate.

Cases being treated with separate injections of protamine zinc insulin and crystalline insulin before breakfast in a ratio of greater than two to one will usually require a dose of NPH insulin equaling the total dose previously taken. If the proportion of crystalline insulin is relatively greater, the possibility of gaining control with a single dose of NPH insulin is less. In this event, control can often be achieved by the addition of crystalline insulin in the same syringe as previously described. This is easily done by most patients but there are an appreciable number who cannot accurately mix insulins and a few who would rather give separate injections than take the trouble to mix insulins.

Two to one mixtures of crystalline insulin and protamine zinc insulin have time-action curves roughly similar to the time-action curve of NPH insulin. Thus in changing a similar dose of NPH insulin may be expected to be necessary. Although it acts over a somewhat shorter period, globin insulin may usually be replaced by an amount of NPH insulin equal to the previous dose.

CONCLUSIONS:

A single daily injection of NPH insulin will satisfactorily control with maximum convenience the majority of cases of diabetes mellitus. It is advisable in some cases to add in the same syringe a small amount of crystalline insulin. By adding crystalline insulin in selected cases and by making other minor adjustments all but a few diabetics can be well controlled on a single-injection program of NPH insulin. Methods of outlining and adjusting NPH insulin therapy have been discussed.

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ACKNOWLEDGEMENTS

This is to express appreciation to Dr. Alexander Marble for many helpful suggestions.

The author is indebted to Miss Evelyn Frye for secretarial assistance.

MEDICAL SOCIETIES AROUND THE STATE

Garfield-Kingfisher

A postgraduate course in abdominal surgery was scheduled for the date of the February meeting of the Garfield-Kingfisher County Medical Society. It was an afternoon and evening meeting. Speakers were Ray H. Lindsey, M.D.; Peter E. Russo, M.D.; F. M. Lingenfelter, M.D.; J. M. Parrish, M.D.; and M. M. Appleton, M.D. A color film on surgery of the biliary tract was also shown.

Cleveland County

Dr. Kirk Mosley, epidemiologist with the University of Oklahoma School of Medicine department of public health, spoke on the latest information on measles, mumps, whooping cough and chicken pox at the Cleveland County Medical Society meeting recently. George Reid, associate professor of civil engineering and public health, discussed medical aspects of the atomic bomb.

Garvin County

Ray E. Spence, M.D., Maysville, was installed as president of the Garvin County Medical Society at a recent meeting. The installation was conducted at a dinner held at the State hospital at Pauls Valley. Vice-president is James N. Byrd, M.D., Pauls Valley, and Hugh H. Monroe, M.D., also of Pauls Valley, is secretary.

Kay-Noble

Two Oklahoma City physicians, George H. Kimball, M.D., and Harrell C. Dodson, M.D., were guest speakers at a recent Kay-Noble County Medical Society meeting in Blackwell. A dinner with the Auxiliary was held preceding the scientific meeting.

THE CROSS-EYED CHILD*

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It is not the purpose of this paper to discuss in detail the causes and management of the cross-eyed child, but rather to consider, more or less in outline form, the reasons we ophthalmologists treat the child as we do. Most children with crossed eyes are seen first by the family physician or pediatrician and not by an ophthalmologist. It is important that these men have at least a general idea of what should be done. If one has a few basic principles in mind, it is easier to understand the reasons behind the therapy used on the patient.

In the management of any child with eyes which are not straight, the ophthalmologist has two obligations: first, to do everything possible to insure good vision in each eye; and second, to align the eyes and, if possible, develop binocular vision. I believe that the most important consideration is the development of equal vision and that this is our first duty to the patient. It is becoming increasingly difficult for a person with one eye to obtain employment, and there is every reason to feel that requirements on vision will become more strict.

There are three principal causes for defective vision in the child with crossed eyes. First, there may be organic changes in the retina, especially in the macula, which cannot be corrected with any therapy. Examples of this are: central choroiditis, as found in toxoplasmosis; changes due to macular hemorrhages at birth; and tumors. Second, there may be a refractive amblyopia which is the result of an uncorrected refractive error. In many cases, this is due to a marked difference in the refractive error of the two eyes. These patients may respond well to the wearing of glasses. Third, there is the amblyopia of disuse. This is the most frequent cause of decreased vision in a cross-eyed child and can usually be avoided if early treatment is instituted. It is important to remember that this loss of vision is not due to organic disease but rather occurs at the cortical level and is the result of ignoring what is seen by one eye.

In treating the decreased vision, the ophthalmologist has three aids: (1) glasses; (2) occlusion therapy; and (3) orthoptic training. If the decreased vision is due to organic changes in the retina, no therapy will improve the vision. If the decreased vision is due to high refractive errors or marked anisometropia, glasses alone may result in normal vision. If glasses do not improve the vision, then the only treatment remaining is some form of occlusion therapy. By occlusion therapy, we mean blurring or blocking completely the vision in the better eye in order to force the patient to use the poorer eye. With use, the sight in the eye with decreased vision usually improves. Occlusion therapy may be used over a period of several years to prevent regression. If there has been no improvement in vision after three to six months of complete occlusion, it is usually futile to continue. There are three principal types of occlusion treatment. The most effective method, which is not always tolerated, is total occlusion of the good eye with a bandage. Less effective, but still useful, especially in the very young, is monocular atropinization. Atropine will not be effective if the child is wearing glasses. If a child is wearing glasses, it is sometimes possible to blur the vision in the good eye by using multiple layers of nail polish, or other substance, to cause visual distortion. The use of orthoptics (muscle exercises) in conjunction with glasses and occlusion therapy is believed by some to improve the final results.

A question frequently asked is, "How can one determine the vision in a small child?" Until the child can be taught to use the illiterate "E" chart, one must depend upon light fixation. This test is quite simple and consists of observation of the eye which the child uses when looking at a small light. If the vision is good in both eyes, the child will look at the light with either eye. If the vision is poor in one eye, it is difficult if not impossible for the child to look at a light with the poor eye. This is our only means of determining the vision until the child is about three years old. In working with small children, we attempt to develop good fixation with each eye by the use of glasses and occlusion therapy. Orthoptic exercises are not useful until about the fourth

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or fifth year.

The most important consideration in the management of a cross-eyed child is the prevention of disuse amblyopia. It is here that the family physician and pediatrician are all-important. Unfortunately, many physicians are still of the belief that children will outgrow a crossed eye or that no effective treatment can be started until a child is seven or eight years old. It is true that a small percentage of these children will have crossed eyes in childhood and that the eyes will eventually straighten, with good vision in each eye. However, these children are definitely the exception. Most individuals who "outgrow" a crossed eye do so at the expense of useful vision in one eye. The sequence of events is usually as follows. One eye turns occasionally and, during these periods, the patient experiences double vision (although he may not describe or complain of diplopia). In order to avoid double vision, one of two conditions must be fulfilled. The eyes may straighten (intermittent crossing) or the patient suppresses or ignores what he sees with the crossing eye. Once he learns to suppress or ignore the vision in the crossing eye, the visual acuity will decrease until the final vision may be hand movements. The earlier treatment is started after suppression has begun, the greater are the chances of eventually developing normal vision. If the suppression becomes marked, it is usually impossible to develop vision in any manner. The problem is relatively simple when treatment is started early, with regular observation throughout the developmental period.

The second objective in the treatment of a cross-eyed child is to straighten the eyes.

There are four principal types of deviation of the eyes: exotropia, hypertropia, esotropia, and a combination of these. Exotropia is the turning out of an eye, hypertropia is the turning upward of one eye, and esotropia is the turning in of one eye. The fourth type of deviation is a combination of hypertropia with either esotropia or exotropia. Of these types, the order of frequency of occurrence in childhood is probably esotropia, esotropia with hypertropia, exotropia, exotropia with hypertropia, and pure hypertropia.

Another important consideration is the frequency of turning. The turning may be present at all times (constant) or it may occur at irregular intervals (intermittent). If the turning is intermittent, it is usually exaggerated by fatigue, emotional disturbances, looking at near or distant objects, or by general debility (childhood diseases). Very few children have constant crossing at the onset, but rather go through a period of intermittent turning which finally becomes constant.

Before straightening the eyes of a cross-eyed patient, one should first attempt to classify the case as to underlying pathology. On the basis of underlying pathology, we find the following causes: (1) structural changes; (2) innervational anomalies; (3) accommodative abnormalities; (4) combinations of numbers 1, 2, or 3; and (5) congenital amblyopia.

Under structural changes, one must consider the possibility of faulty muscle or fascia development. One condition which must always be considerd is the possibility of an intraocular tumor, usually a retinoblastoma. There may be macular changes as the result of an old inflammatory process (toxoplasmosis), colobomas of the macula, or macular degeneration due to hemorrhage at birth.

Innervational anomalies refer to abnormal impulses for convergence or divergence. In these patients, the difficulty is one of excessive or deficient nervous impulses to the muscles, with no abnormality in the muscle structure itself. These are probably the most unsatisfactory cases from the therapeutic standpoint, but fortunately many of these patients improve as they grow older.

Accommodative abnormalities refer to those cases in which the refractive error is the cause of the turning eye. In uncorrected hyperopia, the tendency is for the eye to turn in, while in uncorrected myopia, the eye turns out. The eyes of these patients are straightened by the wearing of glasses. It must be remembered that most of these patients will revert to an abnormal position of the eye if glasses are not worn. Under no circumstances, should a patient whose crossing is completely corrected by glasses be operated in order to go without glasses, because later in life such a person will have difficulty.

The most common combination is that of a turning which is partially accommodative and partially structural. In these patients, the turning of the eye is definitely decreased by the wearing of glasses, but there is still some residual turning. These patients usually will require surgery for that portion of the squint not corrected by glasses.

The congenital amblyopia group is ill-defined and difficult, if not impossible, to prove. These are patients with a turning eye, poor vision, and no apparent fundus pathology, who do not improve on occlusion therapy. It is assumed that the vision has never developed in the turning eye and that this poor vision is the cause of the turning eye.

According to the type of fixation, there are three groups. In the first group, the patient will use first one eye and then the other. This is referred to as an alternating squint. In these patients, the vision is usually equal or almost equal. A second group, the exact opposite, consists of the patients who can use only one eye. This is referred to as a monocular squint. These patients always have decreased vision in the turning eye. The third group lies in between the first two and is usually referred to as alternating squint with preference for one eye. These patients are able to fix with either eye but have one eye which is used most of the time. The vision is nearly always better in the eye of preference. It is our desire to have all patients alternate if at all possible because this means that we are avoiding suppression, at least profound suppression. Insofar as the parents are concerned, this is most difficult to visualize, because most of them feel that it is much worse to have both eyes turn alternately than to have only one eye turn.

For straightening the eyes, we have three possible methods, which may be used separately or in combination. These are glasses, muscle exercises, and surgery.

The first procedure in checking a patient with turning eyes is to accurately measure the refractive error. If the refractive error is significant, glasses should be prescribed, to be worn at all times. It is possible to prescribe glasses for a child as young as one year, although in most cases this is deferred until the child is about 18 months old. One must observe the patient for a period of four to six weeks before coming to any conclusion as to the effect of glasses. After the patient has worn glasses for a period of from four to six weeks, the long-term plan of treatment must be considered. As stated in the first part of this paper, immediate attention to the development of vision is necessary. This means occlusion therapy. The glasses should be checked at intervals of from six to 12 months. All of these children should have an atropine refraction at least once each year. If the glasses completely correct the turning of the eye, we are most fortunate. If there is still residual turning with glasses, or if glasses have no effect on the turning, then one is left with two possibilities — orthoptic exercises or surgery.

Orthoptic exercise, in my experience, has been very disappointing insofar as straightening the eyes is concerned. I feel that it is helpful if the eyes are straightened with glasses or surgery, but, as a procedure to correct the turning, the long-term results are disappointing. Another unfortunate feature of orthoptics is that the child must be old enough to cooperate, which is usually around three and one-half to four years of age.

In most cases, if glasses do not correct the turning, surgery will be necessary if the eyes are to be straight. The type of surgery will depend upon the surgeon and is not within the scope of this discussion. It is important, however, to consider the age at which surgery is performed. In recent years, there has been a definite trend toward operation at an earlier age, and I am in complete agreement with this procedure. If the squint is very marked, surgery may be started when the child is as young as six months. In most cases, surgery is performed between the second and fifth year. This allows for adequate effect of the glasses and also aids by aligning the eyes while the fusion faculty is still developing. I feel that, if surgery is necessary, it should be performed before the child enters school. One can never ignore the psychological effect of a crossed eye, and every attempt should be made to provide the child with straight eyes before he starts to school.

In summary, I have only one request, which is that early treatment be given a child with crossed eyes. Once it is established that a child's eyes are not straight, he should be started immediately on treatment by an ophthalmologist, whether the child be six months old or five years old. It is only by early treatment that we can avoid needless blindness due to disuse amblyopia. It is also important for the ophthalmologist and the family physician or pediatrician to cooperate and for both to work for the welfare of the child. In this paper, I have attempted to scan the problems which we face with a cross-eyed child and to give the reasons behind the therapeutic measures of the ophthalmologist.

FLEXION TREATMENT OF LOW BACK PAIN*

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Symptoms of low back pain with radiation into a leg do not always indicate a ruptured intervertebral disk. There are other causes for this type of back and leg pain. The effect of the lordotic posture in the production of low back pain has been defined by several writers.[1 2 3 4] It has been proved that sciatic pain may arise reflexly in low back strain of different types even though there is no direct compression of a nerve.[6 8 9 10] It is our purpose to describe a conservative method of relieving this very disabling condition. Complete remission of symptoms may be accomplished by means of conservative care, even in cases of ruptured intervertebral disks.

When man's ancestors arose from the 'all-fours' position the pelvis tended to remain horizontal and thus the lordotic lumbosacral spine developed. A vertical column resting on an oblique support is a mechanically weak structure. This simple illustration explains the inherent weakness in sway back or a lordotic spine. Conversely, the mechanically strong spine is one in which the lumbar spine and sacrum line up more nearly in a vertical column. The rationale of flexion treatment for low back pain is to establish normal alignment of the vertebrae, and maintain it by active muscular effort.

The patient's pain may follow a single injury or repeated small traumata. He usually complains of low back pain, which may or may not radiate into one or both hips, thighs, or even legs. The discomfort is aggravated by exercise or prolonged standing, and relieved usually by rest. He may have had repeated episodes of lumbago or catches. The attacks will be found to have followed activities such as lifting a heavy load with the knees straight either above the waistline or to one side, working with the arms overhead, riding in a jeep, truck, or tractor, and sometimes long rides in an automobile. Perhaps even merely sitting in a chair in a lordotic position at work for long periods may produce back strain. Bending over a wash basin or bench with the knees straight, and working with ordinary loads or at hoeing or shoveling or bent forward with the knees straight will initiate the pain. The patient may complain that he awakens with pain in the low back during the night or in the morning. This is due to sleeping on the face or on the back with the legs straight out. Most patients complain that mere standing causes a greater aggravation of their pain than walking, sitting or lying down. The most common history shows the onset of acute pain with a sudden snap or catch, following sudden or forceful hyperextension of the lower part of the back. This frequently occurs in straining or lifting at heavy loads; but occasionally the pain will strike as the patient bends over but even before he lifts an object.

Analysis reveals the striking fact that hyperextension of the lumbar spine on the sacrum produces the pain while flexion relieves it. A history of routinely sleeping on the side with one or both knees drawn up for comfort is a clue to needed flexion treatment.

PHYSICAL FINDINGS

These patients present a fairly characteristic picture on examination. When acute all motions are carefully guarded, muscle spasm is expected, and they turn the body en masse. Motion of the lumbar spine is greatly restricted in all directions. Lordosis may be extreme or the lumbar spine may appear unusually flat. This latter is a pseudo-flattening and the lateral x-ray film will usually confirm the hyperextension. They walk with a characteristic forward inclination and usually a deviation to one side. A so-called sciatic scoliosis is not infrequent, with the muscle spasm on the side of the scoliosis.

The patient with a less severe affectation will appear more normal while walking, although he may have a mild sciatic scoliosis. The lordosis is usually a prominent feature even in the milder cases.

Pain, in the usual case, is dull in type and located in the lower lumbar region, often transversely. In the severe case the pain may be extreme. Pain may be referred down one or both thighs and may closely simulate a herniated intervertebral disk.

There is an exquisitely tender spot to touch at the lumbosacral joint: palpated between the fifth lumbar spinous process and the spinous process of the first sacral vertebra. Tenderness may also be palpated over

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the attachments of the ilio-lumbar ligaments, or the sacro-spinalis or quadratus lumborum muscles. Straight leg raising is strongly positive, usually more so on one side. Hyperextension of either thigh is painful; hyperextension of the lumbosacral spine is acutely painful. Sciatic nerve stretching tests are frequently positive but skin sensation and deep reflexes in the lower extremities are usually normal. If abnormal a diagnosis of a herniated disk must be considered.

RADIOLOGIC FINDINGS

All patients presenting a backache of this type should have x-ray examination of the lumbosacral region. Routine antero-posterior and lateral views should be made. Oblique views are indicated when there is question of facet pathology. The most frequent finding is that of an excessive lordosis, or hyperextension of the sacrum on the lumbar spine in the lateral view. This view must be made with the thighs in line with the body, not flexed. Narrowing of the lumbosacral joint or of the fourth lumbar interspace may be seen. A slightly posterior position of the body of either of these vertebrae with respect to the one below it may be present.[15] Degenerative arthritis will be present according to the patient's age and the amount of wear and strain to which the lower spine has been subjected. The facets may be overriding and may show arthritic changes. In the overriding facet the process from below projects above that of the vertebra from above producing the "dog ear" appearance. This is a sign of an hyperextended joint. The facets of the lumbosacral joint may lie in the sagittal plane as seen in the antero-posterior view or they may lie one sagittal and the other coronal. Both situations are definite signs of lumbosacral instability and a tendency to develop hyperextension or sway back.

Congenital deformities often are present and indicate points of weakness. Spondylolysis or pre-spondlyolisthesis or a frank spondylolisthesis is often seen. Transitional fifth lumbar or first sacral vertebrae are further evidence of a poor mechanical spine.

ETIOLOGY

Bad posture as an etiologic agent in low back pain was first pointed out by Goldthwaite in 1911[1] and again in 1934.[11] The concept has been elucidated by Williams[5,7] and Regen[12] more recently. Price[13] reviewed a large series of patients treated by flexion at the McBride Clinic. He found a majority of patients recovered rapidly and that so long as they maintained proper posture, the pain did not recur.

One of the most common ways for the development of poor posture is standing without muscular effort. If a person balances his weight on both legs he can then balance all his weight on each side of the vertical, and remain erect with very little muscular effort. The weight of the hips in lordosis balances the protuberant abdomen. The weight of a kyphotic chest balances that of a forward jutting head. When fatigued, this is the position assumed. Sagging of the buttocks backward and of a relaxed protuberant abdomen hyperextends the sacrum on the lumbar spine, whether the patient is sitting, standing or lying down. Hyperextension of the lumbosacral joint places the muscles which control the joint at a distinct mechanical disadvantage. When the person attempts any bending, lifting or twisting with the lumbosacral joint hyperextended, he causes an overaction in fatigued muscles and spasm results. Any joint which remains at one extreme of its range of motion becomes sore and painful.

Thus pain may arise from joints with stretched capsules, tight ligaments, or muscles in spasm. When pain is chronic or recurrent in fatigued tissue, a condition similar to causalgia is then established with a dull pain in the low back and a hip and leg radiation very similar to the cervical radiculitis with shoulder and arm pain.

Patients in their first attack ask why they have never had such a back pain previously. Gain in weight, overwork and fatigue, nervous tension, sedentary work or a sudden change to heavier work are some of the answers to this question. Many patients first develop this condition at an age in life when deficiency states are causing changes in the bones, joints, ligaments and muscles which are responsible for the onset.

TREATMENT

Treatment of this type of low back pain is a matter of management rather than that of specific treatment. The principle of the treatment by the flexion method is to correct the lordosis and maintain the correction. Its proper use requires diligent cooperation of the patient and also constant attention by the physician. The patient must understand his condition and the treatment: one of the most important parts of the treatment is the teaching of the patient. An articulated skeleton or x-rays are very valuable for this purpose. The program involves an armamentarium described in the following. The various steps are utilized or

left out as suits the needs of the individual patient.

The entire treatment is very natural for the patient. Observation of any audience shows many people flexing the lumbar spine by sitting with legs crossed, their feet up, or their knees resting on the back of the seat in front of them. Brass rails were placed in front of bars to permit flexion of the lumbar spine during prolonged standing.

Rest is the most important of all. Severe cases are placed on complete bed rest in a double Gatch bed with the thighs flexed constantly at 45 degrees and the head of the bed elevated for comfort. The buttocks lay on the incline with the thighs and the lumbar spine at the depth of the 'V' made by the bed. Knees may be flexed as comfortable. (Fig. 1)

Traction is applied by means of a canvas girdle about the sacral and trochanteric regions. Ropes are attached so that they pull from just behind the trochanters, and the line of pull is directed parallel to the thighs.

Medication is used as necessary. Sedation is given almost routinely and sometimes opiates are required. Curare, Priscoline, and Tolserol are useful to assist in relaxation of muscle spasm. Local injections of Procaine in acutely tender spots is a valuable aid.

Some form of heat is used routinely. Massage is of limited early value, but may be more beneficial later.

In some cases a flexion cast is beneficial, but it must be applied correctly and fit well. (Fig. 2) The patient stands with the hips and knees flexed, the lumbar spine flexed as much as possible and the buttocks 'tucked under'. He rests his knees on a low chair and grips the back of the chair. The cast must be cut out low anteriorly and arched above each thigh, in order to permit the exercises while wearing it.

A brace is not required commonly. If considered necessary, usually only in the older patients, the Williams flexion brace should be used. (Fig. 3)

Exercises as illustrated are designed to stretch the tight back extensors and hip flexors, and to strengthen the abdominals and gluteals. The latter two groups are the flexors of the pelvis.

To strengthen the abdominals the patient lies flat on his back and draws the thighs up on the chest, one at a time and then both together. This also stretches the back muscles. (Fig. 4)

To stretch the hamstrings he uses the same position except that the knee is extended with the leg straight upward. (Fig. 5)

To strengthen the gluteals the patient lies flat on his back with hips and knees flexed, and lifts the hips while holding the lumbar spine down flat. (Fig. 6)

The most important part of the entire treatment is teaching the patient actively to correct his poor posture and to prevent positions and activities which cause him poor posture. The basic tenets of the method require the patient to correct his bad postural habits and then to maintain good posture.

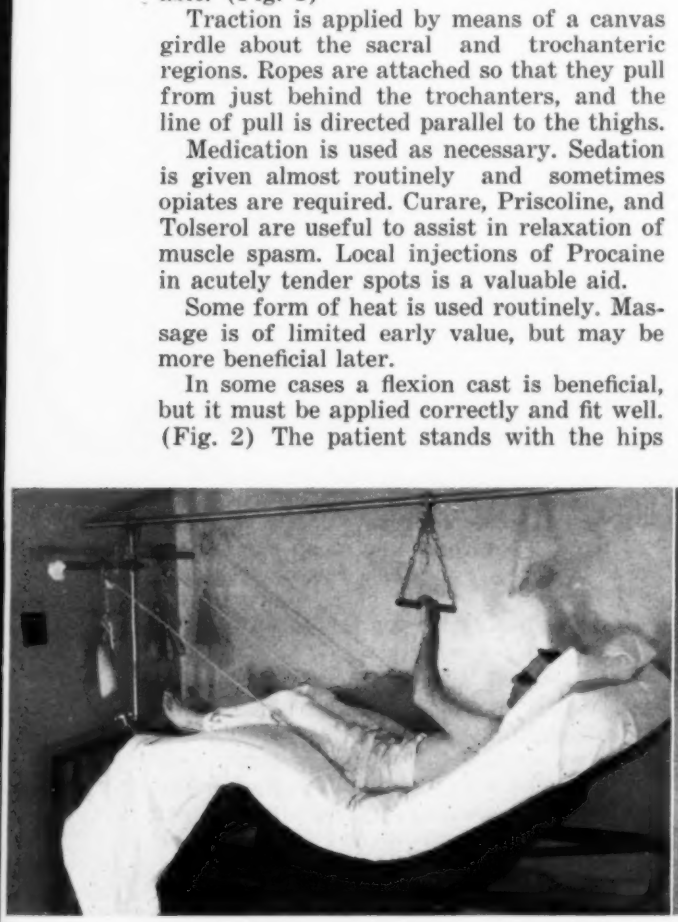

FIG. 1

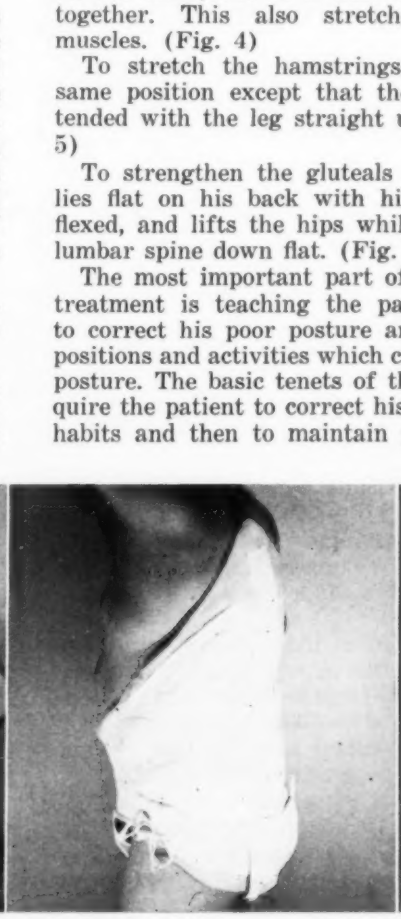

FIG. 2

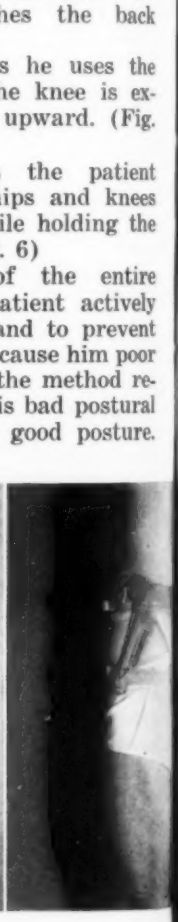

FIG. 3

Fig. 1. The flexion bed showing the position of the patient. Method of appliaction of pelvic traction also shown.

Fig. 2. The cast is similar to a body jacket except that it extends much further down behind the buttocks and trochanters, and holds the pelvis 'tucked under.' Cast also extends in gentle curve up the back to the interscapular region. Anteriorly it holds in the protuberant abdomen and is cut away widely to permit the exercises.

Fig. 3. The Paul Williams Flexion Brace. It is hinged at the top between anterior and posterior portions. The lower strap on the side runs through a pulley to flex the lumbosacral joint continuously.

FIG. 4

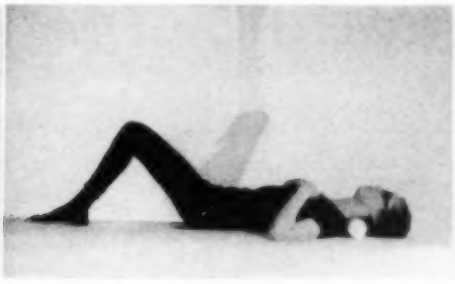

FIG. 5

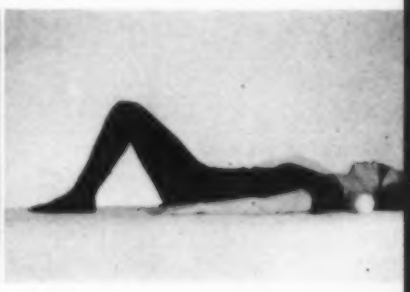

FIG. 6

Fig. 4. Flexion of the thighs on the abdomen, individually, and then together strengthens the abdominal muscles.
Fig. 5. The patient must work at this exercise until he can extend the knee completely with the thigh flexed. (Try it.)
Fig. 6. The hips are lifted by action of the gluteal muscles only — guarding against assistance by the abdominals or leg muscles. The lumbar spine must be held down flat. The deep breathing exercise is shown by the double exposure.

If he resumes his old lordotic posture, his back pain will return. He is taught to sit with the hips 'tucked under' and with the knees higher than the hips, and in driving to keep the seat forward to attain this position. He sleeps on a firm bed, not on his abdomen, but with the knees flexed lying on his side, or if on his back with a pillow under the knees. (Fig. 7) He is taught never to lift weights above his elbows, and to rest one foot on a stool when standing. He always keeps his low back flat. At home he leans against a wall or door attempting to touch the entire lumbar spine. A very useful home treatment (Fig. 8) is to have the patient lie on his back with the hips and knees each flexed 90 degrees and the calves in the seat of a chair of suitable height. Much relief is obtained also by pulling the thighs up on the chest with the hands, while lying on the back, thus stretching the painful cramping muscles. (Fig. 9)

SUMMARY

Many years have passed since the conception that lordosis as such, represents an unstable mechanical weakness in a spine. The medical profession has been slow to give up the old methods of treating backache in extension. Correction of sway back is mandatory in low back pain. Our experience in the past four years has been given convincing evidence that the flexion treatment will relieve a high percentage of low back pain.

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FIG. 7

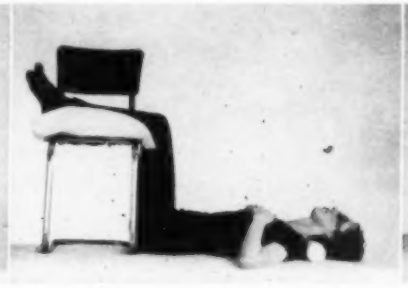


FIG. 8

FIG. 9

Fig. 7. Proper sleeping position.
Fig. 8. Lying in this position is the best first aid for the painful low back. The contour pillow beneath the neck adds rest and relaxation, as well as improving posture. An electric heating pad may be placed beneath the low back.
Fig. 9. This is passive stretching of the painful cramping muscles. More benefit is obtained if the hips are lifted by the flexion motion of the thighs.

THERAPEUTIC CONFERENCE*

The University of Oklahoma School of Medicine
Presented by the Departments of Pharmacology, Medicine and Surgery

NON-TUBERCULOUS DISEASES OF THE CHEST

E. W. YOUNG, JR., M.D., FLOYD MOORMAN, M.D., AND EDWIN FAIR, M.D.

DR. YOUNG: The topic of this discussion is non-tuberculous diseases of the chest. Participating are Dr. Floyd Moorman, Associate Professor of Medicine, and Dr. Ed Fair, a chest surgeon and Instructor in Surgery. We are going to be limited considerably because diseases involving the chest are multitude. We will dismiss such diseases as actinomycosis, blastomycosis, monoliasis, anthrax, coccidiodomycosis. Those diseases are rare enough and the therapy is certainly not specific. They are treated as if they were elsewhere in the body.

With any mild upper respiratory infection one of the very common complications is bronchitis. Bronchitis is a disease we very frequently dismiss with very little thought because of the efficacy of modern chemotherapeutic agents, but sometimes it can be a tremendous bugbear, particularly when it develops into the chronic stages. An acute tracheobronchitis is certainly not a disease that the patient dismisses lightly. I would like to ask Dr. Moorman to discuss the general management and the therapy of the two phases of bronchitis.

DR. MOORMAN: Of course the treatment of bronchitis will depend upon its cause. In other words, it might be infectious, it might be chemical, it might be allergic, or the bronchitis might be the result of aspiration of a foreign body. If it is an infectious bronchitis, it might be acute or chronic. The acute types of bronchitis will often respond to the antibiotics, in some instances to sulfonamide, and it is well to try these. The preparation which a doctor might decide to use will depend upon, in many instances, the financial status of the patient. The sulfonamides are much cheaper than most of the antibiotics. At the present time penicillin isn't very expensive but aureomycin, terramycin and chloromycetin are expensive. So, if there is a financial element to consider it might be best to use one of the sulfonamides. If it doesn't respond to that, we can use penicillin or aureomycin, terramycin or chloromycetin. There are other things than drugs which might be helpful in some of these cases. If the cough is quite annoying we sometimes resort to simple remedies such as steam inhalations with the use of compound tincture of benzoin or some similar substance which has a soothing effect on the irritated bronchial tree. In the chronic bronchitis it might be a more difficult problem and the disease might not respond to any type of treatment. If that is the case, we have to look further for some other underlying condition, such as bronchiectasis. It might be difficult in some cases to differentiate between chronic bronchitis and bronchiectasis, which would necessitate further laboratory studies. I mentioned chemical bronchitis. Certain gases will cause bronchitis which might be severe. Inhalation of ammonia gas is a common example. This happened often in World War I due to the mustard gas which was used by the Germans. In allergic bronchitis, that is a sensitivity due to an allergen, you must look for therapeutic agents other than what would be beneficial in infectious types of bronchitis. Some of the antihistamines often relieve an allergic bronchitis.

DR. YOUNG: Dr. Moorman, what about the use of cough prescriptions? When do you use expectorants and cough sedatives, and when might oxygen be necessary in these cases?

DR. MOORMAN: Of course there are times when expectorants would be helpful. Chief among these is ammonium chloride and the iodides, which liquify this secretion and make it easier to expel. That often gives relief. If you desire an expectorant, it is best not to use an opiate of any kind since they have a tendency to allay expectoration. Naturally they might be indicated in instances where the cough is so severe that it might interfere with rest. Many proprietary cough remedies do have codeine, which is the most common opiate to be combined in the ordinary cough sedatives. Sometimes something stronger such as pantopon or dilaudid might

*This report represents the recording of a Therapeutic Conference held in the auditorium of the University of Oklahoma School of Medicine. These conferences are held each Monday at 4:00 P.M. and are attended by the upper classmen in the School of Medicine, interns, residents, and other physicians. Any physician is welcome to attend and participate. The conferences are conducted under the sponsorship of the Department of Pharmacology.

be indicated. The trouble with so many cough syrups, whether they be expectorants or mere sedatives, is that they upest the stomach. For this reason it isn't always a good idea to prescribe a cough syrup. Oxygen might be indicated in some cases. I don't know that I have ever seen a case of bronchitis where it was indicated. If there is a great deal of difficulty in breathing, if there should be cyanosis, then naturally oxygen would then be indicated. Most commonly this will be in acute types and perhaps in some of the chemical types as a result of ammonia gas where there is a severe local irritation and perhaps some obstruction. Then oxygen would be beneficial.

DR. YOUNG: I might mention one thing to the students. If you remember your first week's lectures in pharmacology you will remember that expectorants were divided into three groups. 1) The saline expectorants which quite frequently, in the very early cough which is rather tight and nonproductive, may be of benefit. Certainly in those cases you would not want to sedate the cough reflex too much by the codeine. 2) The nauseant expectorants such as apomorphine are rarely used anymore. 3) The irritant expectorants, which we see most commonly in elixir of terpin hydrate and codeine. This is a standard mixture and sometimes, particularly in the cough that goes with a cold, may be of some benefit. Frequently the only measure you need to follow is sedation of the cough reflex rather than too much in the way of an expectorant. I would like to ask Dr. Moorman to discuss for us the therapy of pneumonia and also to ask his opinion of the use of aerosol penicillin and streptomycin mixtures in the treatment of either bronchitis or pneumonia.

DR. MOORMAN: The treatment of pneumonia again depends upon the type. We have atypical pneumonias and bacterial, such as the pneumococcic, streptococcic, staphylococcic pneumonias, which are perhaps the most common. It seems that in this part of the country we don't see many specific pneumonias anymore, that is, the true pneumococcic pneumonia. Occasionally we do. It seems to me that the incidence of the pneumococcic pneumonia has decreased since we have had such effective agents as sulfa and penicillin available. They usually cure pneumococcic pneumonias within a short period of time. In the atypical or "viral" pneumonias it is a different story. They do not respond to penicillin nor do they respond to sulfonamides. Oftentimes the duration is shortened and the course of the disease is made much less severe by the use of such antibiotics as aureomycin, terramycin and chloromycetin. I believe I have had a little more experience with terramycin than with the others, perhaps for the reason that it seems to cause less gastric disturbance. In many instances if nausea or even occasional vomiting does develop, administration of the drug with cold milk will often be of benefit. Aerosol inhalation of penicillin may be quite helpful in bronchitis. It is also true in bronchiectasis that it gives more relief than anything else in the way of medical treatment. In some of the primary atypical pulmonary infections that do not respond to penicillin or sulfonamides, sometimes streptomycin will be effective. I have seen that occur in a few instances. Ordinarily if you can give some medication by mouth it is preferable to hypodermic injections. Most of the infections responding to streptomycin will respond to aureomycin or terramycin, so there is seldom any reason for using streptomycin. Of course, one must remember that streptomycin might have some toxic effects. I don't think it often does unless given over a long period of time, but involvement of the 8th nerve, dizziness and sometimes deafness has occurred as a result. When deafness has occurred, it usually is in cases in which streptomycin has been used intrathecally in the treatment of meningitis.

DR. YOUNG: Formerly bronchiectasis was a disease that was entirely handled by the departments of internal medicine, and within recent years the surgeons have invaded the field and have largely taken over the definitive therapy of bronchiectasis. I would like to ask Dr. Fair to discuss the surgical management of bronchiectasis, particularly in regard to the preparation of the patient prior to surgery and the management of bilateral bronchiectasis.

DR. FAIR: Bronchiectasis is usually an irreversible disease. Formely we treated it by alleviating the symptoms, and that can still be done effectively in cases that are not suitable for surgery. We feel today that pneumothorax does not have a place in the therapy of bronchiectasis. Bronchiectasis is a disease that far too often is overlooked. We still see patients that have been examined by doctors frequently in past years and who have been told that nothing can be done for them in the way of cures. Only in the past month or so we saw a patient who had been advised against surgery by his family doctor. The patient was referred to a local internist

specializing in pulmonary diseases, who advised the patient to undergo surgery. It isn't a disease that is as well understood as it should be.

There are different stages of bronchiectasis. Some of it is minimal and the symptoms produced are also minimal. We do not operate merely because the patient has a little dilatation of a bronchus. But an individual with bilateral bronchiectasis that develops by the age of 10 years stands about one chance out of four of living to be 40 years of age. Usually he will die of recurrent pulmonary infection. We use a rather set program in the management of patients with bronchiectasis. First we make an accurate diagnosis, by means of bronchograms, of the segments of the lung involved. Sometimes we have to repeat a bronchogram because we have progressed to the point in thoracic surgery where we can go in and take not only a lobe of a lung but a segment of the lobe. Therefore, it is essential to learn the anatomy of the bronchial pulmonary segments. The Huber-Jackson classification of the tracheobronchial tree means something clinically now. We must know, for example, whether or not the lingular segment of the left upper lobe is involved as revealed by study of the bronchogram.

Bronchoscopy is done as indicated, and having established this diagnosis, we place our patient on penicillin by aerosol; sometimes streptomycin, but usually penicillin because it is effective against the usual organisms. However we do not use the setup as usually described in the literature, which uses oxygen to blow the antibiotic down into the tracheobronchial tree. Two or three of the drug houses have come out with little plastic apparatuses that contain powdered crystalline penicillin. With the effort of a forced inspiration, the patient can draw the penicillin down to the infected terminal bronchi. This is very effective. We place the patient on this apparatus, having them empty one of the cartridges three times a day. There are usually 50,000 units per cartridge. In addition, we use postural drainage, having the patient hang over the bed or a table with the head low and coughing forcibly twice a day. We have plenty of blood available at the time of surgery. Usually from one to four pints of blood are used in the resection of a lobe or segment of a lobe. I think sometimes we over-emphasize the use of vitamins, but we do use vitamins preoperatively. These people are often in a poor state of nutrition. I remember the first case I operated here; it was a woman that weighed 89 pounds. On this program that I described, she weighed around 100 or 110 pounds when operated. Occasionally we find a patient with bronchiectasis who with this management has improved enough subjectively that he doesn't see the necessity of surgery. A few of them wait until they have a recurrent infection before being operated. As far as bilateral bronchiectasis is concerned, we do pulmonary resections in young people for bilateral bronchiectasis — young meaning 30 years of age and under. We know that after the age of 30 there is not the compensation of the remaining lung that occurs in an individual in the twenties or in the teens. After all, we have to leave adequate function and we must leave them at least two of their five lobes. We do not hesitate to do a middle and lower lobe resection on the right side and later a lower lobe resection on the opposite side. If this is done in a young person, he will be slightly dyspneic but will eventually compensate until he is much better off than he was with the disease, and certainly the prognosis is much better.

DR. YOUNG: What is the ability of these people to carry on their normal life if they do have two or three lobes left? What is their activity, what can they do after surgery?

DR. FAIR: If we get these people when they are young, they can carry on normal activity postoperatively. I have them going to college, one changing tires in a service station, another a stenographer. They are able to carry on normal activity with just two lobes.

DR. YOUNG: Dr. Moorman, do you have anything to add to this discussion of bronchiectasis?

DR. MOORMAN: I most certainly think it was wonderful that the surgeon came to the aid of the internist in the treatment of bronchiectasis. Before the recent progress of chest surgery, there was one thing that helped these individuals — aerosol penicillin. It doesn't seem to be effective when injected and it is only by breathing it directly into the bronchial tree that maximal benefit is achieved. Of course there are some cases that are not amenable to surgical treatment, such as elderly people and in some bilateral cases where the vital capacity might be diminished, contraindicating surgery. As Dr. Fair mentioned, an effort should be made to build up their general resistance by the use of vitamins or whatever dietary addition is indicated, and institute maintenance therapy with aerosol penicillin.

DR. YOUNG: Another tremendous problem of the man handling a great number of chest diseases is the management of bronchial asthma. This has been primarily a disease that has been managed by the allergist and the internist more or less together. I am told by Dr. Fair that there are some surgical measures that are of benefit in the treatment of asthma. However at this time I think the treatment is fundamentally medical, and I would like to ask Dr. Moorman to discuss the treatment of a previously diagnosed case of true bronchial asthma.

DR. MOORMAN: The asthmatic often presents a problem, certainly in the condition know as "status asthmaticus". In many instances of course the first thing to try, and the thing which is most often effective, is the use of epinephrine for the acute attack. It seems in many cases of chronic asthma that a resistance to adrenalin develops, rendering this drug ineffective in controlling the asthmatic attacks. There are several things which are important in the management of asthma. Of course after it exists for a period of several days secondary infection develops and a fever may result. Sometimes it may be quite high due to retention of material in the terminal bronchi. In such instances the use of penicillin or some other antibiotic is effective. Iodides are often used and they do have a place in the treatment of bronchial asthma. Here it is used for its expectorant action. As far as I know no iodide preparation has any relaxing effect on the bronchial spasm which occurs, but it does help to raise the material which accumulates. There are numerous other remedies which we need not mention. There are probably as many remedies for asthma as there are for the common cold. There are several other drugs which have a similar effect to epinephrine and may be used when adrenalin is not effective. Of course many of the antihistaminic drugs are recommended. What will help one asthmatic might not touch the next patient you see. You often have to use the trial and error method and try different agents in the treatment of this condition. Recently perhaps you have read or heard about the use of ACTH and Cortisone in the therapy of asthma. It certainly does seem to be a wonder drug in the treatment of these cases which have been refractory. In the case of "status asthmaticus" there have been some marvelous recoveries from this drug. At this time, it is merely a crutch and it is not a cure. There is no cure so far as I know. Some cases of asthma do seem to recover spontaneously, especially in instances in which the disease begins in young people. An effort should be made to find out if the individual is sensitive to some particular allergen such as dust, animal dander, or hair. In such cases the offending material can sometimes be removed and in other instances the patient may be desensitized.

DR. YOUNG: As you have been told before, at any time a multitude of drugs and treatments exist for any particular disease, then certainly no one of them is satisfactory in a significant percentage of people. Dr. Fair, what are the surgical procedures that can be used in the management of asthma?

DR. FAIR: In selected cases of asthma that are refractory to medical management, surgery has been done. There have been approximately 50 cases of pulmonary denervation reported in the literature. It is not decided as yet whether the denervation should include both sympathetic and parasympathetic fibers. This work is being done mainly by Dr. Osler Abbott of Atlanta, by Dr. Duane Carr of Memphis, and Dr. Bian Blades of Washington, D.C. At the last meeting of the American Association for Thoracic Surgery they each reported cases, and it has promise. They are using the same procedure for chronic interstitial emphysema. I believe within the next year or two, on selected asthmatics, we might have a surgical procedure that will help. The ganglia that have been resected have shown pathological changes in bronchial asthma.

DR. YOUNG: There are various medical and surgical procedures that can be attempted in case of hiccoughs. Dr. Moorman, what do you know that can be done to cure a case of hiccoughs?

DR. MOORMAN: I don't know the answer. There are of course many remedies and I don't think in many instances one can come to any definite conclusion as to which one it is that works. In these intractable cases, practically everything is used and for some reason the individual finally stops. I don't know of any medication that is effective. Gastric lavage has been recommended and sometimes does seem to be effective. Pressure on the neck over the phrenic nerve might stop it; inhalation of carbon dioxide, usually 10 per cent, may help; oxygen hyperventilation will sometimes cure the condition. Pressure upon the eyeballs has been thought effective; in some instances either injection of the phrenic nerve with alcohol or crushing the nerve (which is not often

done) may be necessary, but so far we have not had to resort to it. Some of the most severe and prolonged cases of hiccoughs that I have seen have occurred after some type of gastro-intestinal surgery. These are the ones which seem to be most difficult to treat. The latest case I saw lasted for three weeks. We tried all of these things that I have mentioned, someone even recommended the use of green gauge plum juice, so we let the nurse give him a little of that but nothing cured his hiccoughs. Finally he stopped at about the time we were ready to inject the phrenic nerve. He was weakened by this long ordeal but so far as we have been able to determine there have been no permanent ill effects. That is about all I can tell you about the treatment of hiccoughs.

DR. YOUNG: Another agent of help is the injection of one grain of papaverine.

DR. FAIR: I don't think one should do a phrenic crush for hiccoughs for the simple reason that you can't paralyze both diaphragms, and usually hiccoughs is a bilateral reaction. If one needs to lend his attention to the phrenic nerve, I think novocaine should be injected on the left side — unless one can get the patient under the fluoroscope and see unilateral diaphragm spasm. Usually it is a bilateral spasm and one is asking for trouble when one does phrenic crushes.

DR. YOUNG: The pulmonary disease receiving most of the attention, particularly in regard to its etiology, has been bronchogenic carcinoma. Recently the attitude of some men in regard to the chronic smoker and whether or not he tends to develop carcinoma more frequently than the non-smoker has been widely discussed. The treatment of this disease is primarily surgical. There is no medical treatment to my knowledge, although some hormones have been tried.

DR. FAIR: We need to do much missionary work on carcinoma of the lungs. Still three out of four are inoperable by the time they get to the surgeon. It shouldn't be so. It is a curable disease and often the fault for the late arrival in the surgeon's hands is with the referring physician and not with the patient. The bulk of them have been treated for "virus" pneumonia or "unresolved" pneumonia. I don't know that there is such a thing as "unresolved" pneumonia. I am sure there is a primary atypical or "virus" pneumonia, but carcinoma of the lung is often overlooked under the false guise of an atypical pneumonia or virus pneumonia. In my experience carcinoma of the lung occurs in men 20 to one over women; others observe a lower ratio. As a matter of fact, any man in the cancer age with a persistent cough should get an x-ray film of his chest. Ninety per cent of these cases will have a cough. Fifty percent of the patients will have the following symptoms: Cough, chest pain, hemoptysis, weight loss. Many will be hoarse, but by the time hoarseness develops there is involvement of the recurrent laryngeal nerve and it is rather late to be doing something about the disease. After the x-ray film is made, definite diagnostic procedures should be begun. These procedures should include a bronchoscopic examination. We can't always see the malignancies with a bronchoscope, but we pick up a fair percentage of them by bronchoscopy. In those we suspect but don't see, three or four cc. of water or saline are injected in the bronchus, the patient is forced to cough, and the fluid is aspirated. This procedure is from 75 to 85 per cent efficient in finding malignant cells. Adequate examination of the fluid depends on two things — the skill of the man with the bronchoscope and the skill of the man with the microscope. We are fortunate to have a good pathologist to help us. Even with these procedures, we cannot always make the diagnosis preoperatively. The only way a definite diagnosis of carcinoma can be made is by getting a piece of it under the microscope. We think one peek is worth two finesses. It is good in bridge and in chest surgery too. We can open a chest today just as safely as we can open an abdomen. The cases we are curing are the ones that we do *not* diagnose preoperatively, the ones that are early enough that they are not shedding malignant cells and are not spreading rapidly.

DR. MOORMAN: I believe a question was asked about smoking. Ochsner is the man who has done most of the writing about smoking being the cause of carcinoma. Nobody knows the exact cause of cancer of the lung as well as cancer elsewhere. Several years ago I was at Ann Arbor and asked Dr. Alexander what he thought of Ochsner's idea that smoking is the cause of cancer. He said that he liked tobacco too well to believe the theory. In the cases of cancer of the lung that I have seen, only two have been in women. All the rest have been in men. The two women did not smoke. I believe I am correct in saying that in every case where it occurred in men — in my experience — most of them have been heavy smokers. Perhaps time will answer that question.

QUESTION: If lung resection is not recommended past the age of 30 in the chronic bronchiectatic patient, which mode or course of treatment is followed?

DR. MOORMAN: I believe I answered that a moment ago by saying that about the only thing that can be done is the administration of aerosol penicillin. Try to keep their general physical condition as good as possible. There might be rare instances of an individual who would be allergic to penicillin, in which case we wouldn't have that treatment to resort to. Sometimes it causes a rash and hives. If you have ever seen a case of hives from penicillin, then you certainly do have the greatest sympathy for the patient. It is a most uncomfortable thing and often lasts for several days or sometimes as long as two weeks.

DR. FAIR: I must correct this 30-year business. We were talking in terms of bilateral bronchiectasis at age 30. We take cases of unilateral bronchiectasis much older for surgery. Cases in their forties can be resected if there is no bilateral involvement at that age. It is in the patient in which one intends to do bilateral surgery that one is concerned with the amount of pulmonary tissue left behind. I do not want to leave the impression that we don't operate for bronchiectasis after 30. In the spring Dr. Graham and one of his associates at Barnes Hospital in St. Louis wrote in the *J.A.M.A.* on the relationship of tobacco and carcinoma of the lung. They reported that 95 per cent of the people who had carcinoma of the lung had smoked for 20 years or longer and 85 percent had smoked 30 years. They concluded that there was a definite relationship to the use of cigarettes. They didn't find the same relationship in the use of a pipe. They also said that the fact that we have such a hig percentage in men is that women have not smoked habitually and heavily for 20 years such as have the men.

MEDICAL ABSTRACTS

PROGRESS IN INTERNAL MEDICINE — Syphilis — Present Day Treatment of Syphilis. Beerman, H., Nicholas, L., Ford, W. T., and Buerk, M. S., Univ. of Penn. School of Med., Phila., Pa. Arch. Int. Med., Vol. 87, February, 1951.

In an extensive review of recent published data concerning syphilis, it is found that most syphilologists feel that penicillin is the treatment of choice for all forms of the disease, the average total dosage being about 6,000,000 units of penicillin intramuscularly given over a period of not less than 10 days, preferably 10 days to two weeks; depot penicillin 600,000 units daily intramuscularly for 10 days would seem to provide the most practical method of treatment. For congenital syphilis in the infants and children, procaine penicillin G in a daily intra muscular dosage of 6,000 — 12,000 units per Kgm. of body weight for two to three weeks. For syphilis in pregnancy 600,000 units of procaine penicillin G daily intramuscularly for 10 days with retreatment during each pregnancy (in the first trimester) is recommended. In early syphilis the earlier penicillin is started the better chance there is for cure (6,000,000 units total over 10-14 days). If the serology becomes negative at the expected time and remains negative for one year, clinical cure can be assured.

—Robert M. Becker, M.D.

PENICILLIN TREATMENT OF INFECTIOUS MONONUCLEOSIS: COMPARISON OF EFFECTS IN 99 PATIENTS With and in 67 Patients without Penicillin Therapy. — Bennike, T., Copenhagen, Denmark. Arch. Int. Med., 87:181, February, 1951.

Penicillin administered parenterally in adequate dosage was found to have no favorable effects on the clinical course of 99 patients with infectious mononucleosis, a disease probably of virus origin. The 67 patients with the disease who received no penicillin recovered as well as those who received penicillin. In a few cases where beta-hemolytic streptococcus pharyngitis existed along with the infectious mononucleosis the penicillin was effective in more quickly controlling the pharyngitis or complicating otitis media. Penicillin is not recommended as efficacious or routinely indicated in patients with infectious mononucleosis.—Robert M. Becker, M.D.

SYNCOPE IN AORTIC STENOSIS. Hammarsten, J. F., Dept. Med. Univ. of Minn., Minneapolis. Arch. Int. Med. 87:274, February, 1951.

Clinical study of 63 cases of aortic stenosis revealed syncope occurring in 16 of the 63 patients. Warning symptoms of the syncope attack included weakness, dyspnea, dizziness and angina pectoris, with duration of the syncope varying from a few minutes to one hour. In four of the patients convulsions occurred during syncope and two of these patients were previously managed as idiopathic epileptics. In 75 per cent of the 16 cases an associated aortic insufficiency was present along with aortic stenosis. Angina pectoris occurred in 75 per cent of the 16 cases. Syncope was commonly precipitated by exertion and the author concludes that the origin of syncope in aortic stenosis is related to decreased cardio output which in turn results from myocardial ischemia associated with coronary blood flow insufficiency with exertion, rather than to arrhythmias. No specific therapy is available except for the patient to stop and rest if he feels an attack coming on.

—Robert M. Becker, M.D.

ATRIAL FLUTTER — Methods Of Treatment. Hermann, G. R. and Hejtmancik, M. L. Univ. of Texas School of Med., Galveston. Am. Heart Jour. 41:182. February, 1951.

After study of various drugs in treatment of auricular flutter, the authors conclude that digitalis is the drug of choice with use of either the powdered leaf or purified glycosides. Most of the cases of auricular flutter were restored to normal by digitalizing with oral or intravenous digitalis which converted the flutter to fibrillation; then withdrawal of digitalis the fibrillation converted to normal sinus rhythm. Quinidine was occasionally effective after digitalis failed. It seemed that use of digitalis or quinidine separately was more effective than when the two drugs were given together. To prevent recurrences, quinidine sulfate 0.2 Gm. three to four times a day, was found most effective.

—Robert M. Becker, M.D.

Special Article

ATTENTION MEMBERS OF THE HOUSE OF DELEGATES

GEORGE H. GARRISON, M.D.

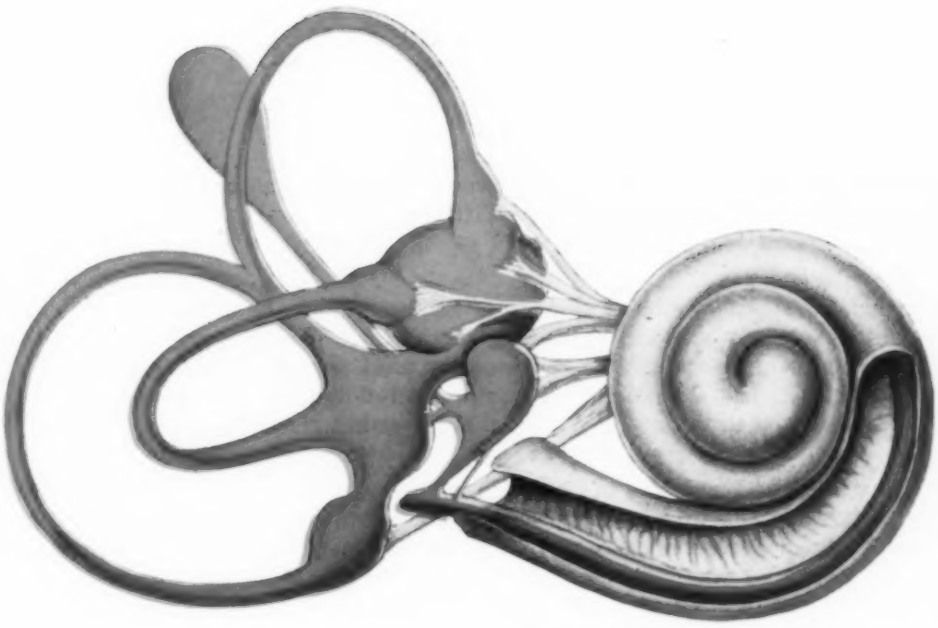
The meeting of the House of Delegates, as you all know is for the purpose of conducting the business of the Oklahoma State Medical Association. That simple statement includes much. It has to do with the levying of dues, expenditures of funds, determination of the direction and degree of public relations, the election of officers, councilors and A.M.A. delegates.

Necessarily all of this requires time and concentrated effort of the members of the House of Delegates but they can expedite the actual operation of the session if they give some time in advance to consideration of the known and probable matters to come before them. The financial statement, the officers to be elected and many of the committee reports will have been published in the Journal before the Annual Meeting and these should be familiar to the delegates.

One phase of the agenda, however, which is not always forseeable is the chain reaction which may be set off by election of officers. When an officer or other member of the Council is elected to another position or resigns from the one he holds, it leaves a vacancy then and there to be filled. Often in filling the vacancy another occurs and so on through numerous changes and this the delegates should expect when the meeting begins.

Last year when the Speaker of the House of Delegates was chosen as President-Elect, the speakership was filled by the Vice-Speaker whose position in turn was taken by a councilor for the unexpired term.

Let us all be thinking now of the competent and qualified members who may be available for any position which may become vacant, by selection of the incumbent for other duties, by resignation or expiration of his term.



Detail of the Labyrinthine Structure

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—Tuttle, A. D.: Special Breakdown of Case Histories, presented at the Airlines Medical Directors Association Meeting, New York, N. Y., Aug. 28, 1949.

DRAMAMINE® **Brand of Dimenhydrinate**

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ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

RESEARCH IN THE SERVICE OF MEDICINE SEARLE

President's Page

Within a very short time doctors from every section of Oklahoma and some of the neighboring states will assemble in Tulsa for the Fifty-Eighth Annual Meeting of the Oklahoma State Medical Association.

The committee in charge of arrangements has been unusually energetic and is determined to make this the most outstanding meeting in the history of the organization. A review of the proposed program will almost convince the most pessimistic of those among us that this goal will be attained. The committee has worked diligently all year spending endless hours in completing their arrangements for this important meeting.

The Chairman and members of the Scientific Work Committee have accomplished an almost unbelievable task. In contacting guest speakers, they have only considered the best known personalities of medicine in the United States. They have secured representatives of the various specialties whose names are synonymous with fame. Doctors Joslin, Dragstedt and Carlson are outstanding examples. Each of these men and many others, who are equally outstanding in their respective fields, will appear on the program. These notables of medicine will be honoring the members of the Oklahoma State Medical Association in appearing at our Annual Meeting. Therefore, it behooves every doctor to put forth a special effort to attend. He can be assured that he will be well repaid for the time spent. The scientific papers and exhibits will offer truly a gold mine of education revealing the most recent data and technique in almost every field of medicine.

The entertainment committee whose work has been perhaps in a lighter vein, has followed through with the same careful planning for the enjoyment of the members, their wives and their guests. The Inaugural Dinner is to furnish the background for a gay evening of relaxation. The address of the evening will be given by none other that the popular Vice-President of the American Medical Association, Dr. R. B. Robins. He has indicated that the title of his address will probably be "Medical Chit Chat."

Naturally, every Oklahoma doctor will want to be present because it will afford each one a splendid opportunity to glean valuable information at hand, to renew acquaintances and strengthen old friendships. In this manner, we will be able to enrich ourselves in many ways and contribute to our profession.

Ralph McGill

President

What cigarette do you smoke?

● As a doctor, you are familiar with the confirmatory tests necessary to prove a fact. Why not apply this principle to your choice of a cigarette? Why not make your own 30-Day Camel Mildness Test?

It's a sensible cigarette test! No tricks — no one-puff decisions! You smoke Camels regularly—for 30 days. *Then* you decide! Yes! Make a thorough day-after-day, pack-after-pack test of Camel's choice tobaccos. Find out over a reasonable period of time how mild a Camel can be—how good tasting Camels are! Find out in your own "T-Zone". Compare Camels for mildness and for flavor. See if the 30-Day Camel Mildness Test doesn't give you more smoking enjoyment than you've ever had from any other cigarette!

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

More People Smoke Camels THAN ANY OTHER CIGARETTE!

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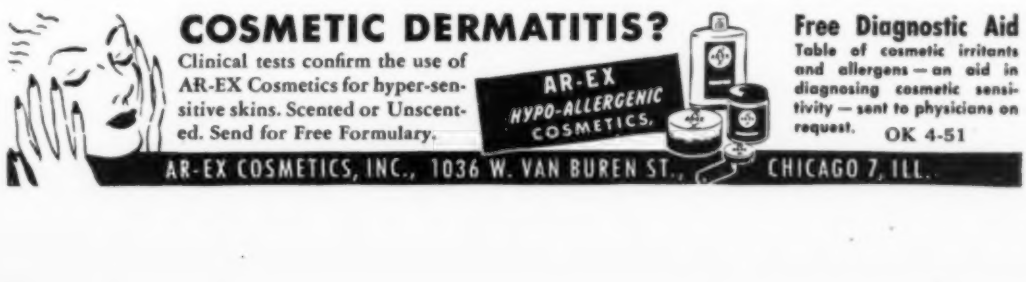
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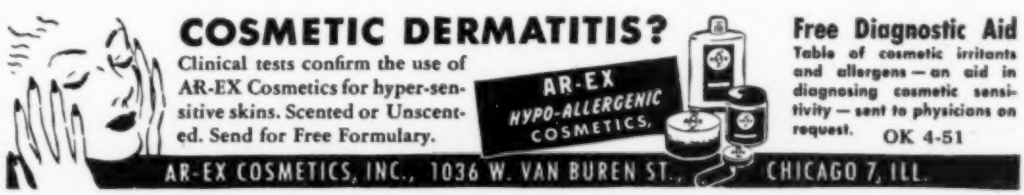
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Fightin' Talk

Oklahoma physicians leaving in March with the 45th Division for Japan number an even dozen. Among those believed at press time to be leaving for Japan were:

Lt. Col. James O. Hood, 45th surgeon, formerly of Norman; *Joe Ed Collins*, formerly of Norman and Oklahoma City, recently promoted to Captain; *Capt. Rowe F. Bisbee*, Ada;

Thomas H. Davis, Tulsa; and *Capt. James J. Gable, Jr.*, Oklahoma City; *Capt. Jack L. Cregston*, Marlow; also *W. H. Kaeiser*, McAlester, *Maj. Claude B. Knight*, Wewoka; *Lt. William Arthur Miller*, and *Lt. Kenneth G. Ogg*, Oklahoma City. *Roger Reid*, formerly of Ardmore, is a Lt. Col. with the 45th and *Henry Grady Ryan, II*, Healdton, is a Captain.

Previously reported at Fort Sam Houston, Texas is *Lt. F. W. Coggins, Granite*, who is now stationed at Fort Sill.

Lt. W. G. Husband, Elk City, also previously reported at Fort Sam Houston, is at Fort Bliss, El Paso, Texas.

DEFENSE ADVISORY-PLANNING COUNCIL IS SET UP

Grady F. Mathews, M.D., Commissioner of Health, has announced that plans are moving ahead in lieu of legislative action creating a Civilian Defense program for the State of Oklahoma in organizing a Defense Advisory and Planning Council pertaining to health. This Council will have representatives of medicine, dentistry, pharmacy, engineering, nursing and Red Cross. Other organizations will be added after the extent of the Council's activities are determined.

Gifford H. Henry, M.D., who has recently been appointed chairman of the Civilian Defense Committee of the Oklahoma State Medical Association will serve as the Association's representative on the Council.

APRIL QUOTA IS FIVE

Oklahoma Advisory Committee has been notified that military call of medical corps officers for April will have five Oklahoma physicians reporting; 28 from Texas; nine from Louisiana; four from Arkansas; and one from New Mexico. May calls have not been announced and at the time of going to press the five reserve officers to be called from Oklahoma were not known.

COMMITTEE APPOINTED FOR BLOOD BANKS

In line with the overall needs of the military forces and civilian defense needs in time of disaster, Ralph McGill, M.D., President of the Association, has announced the appointment of A. Ray Wiley, M.D., Tulsa, to head up the Association's Blood Bank Committee in this important field.

Doctor Wiley has been closely associated with the Blood Bank programs of Tulsa County.

NEW CIVILIAN DEFENSE HEAD

Gifford H. Henry, M.D., Tulsa, has taken over as head of the Civilian Defense committee. Austin H. Bell, M.D., Oklahoma City, had previously served in this capacity. Other members of this committee are yet to be appointed. Activities of this committee will take on added meaning and importance as soon as action is taken by the Oklahoma Legislature in authorizing the creation of a Civilian Defense program for the State of Oklahoma.

O.S.M.A. REPRESENTED AT RURAL HEALTH MEETING

Two representatives of the Oklahoma State Medical Association, M. H. Newman, M.D., Shattuck, and Dick Graham, Executive Secretary, attended the Sixth Annual American Medical Association Rural Health Conference in Memphis, Tennessee, February 22-24, 1951.

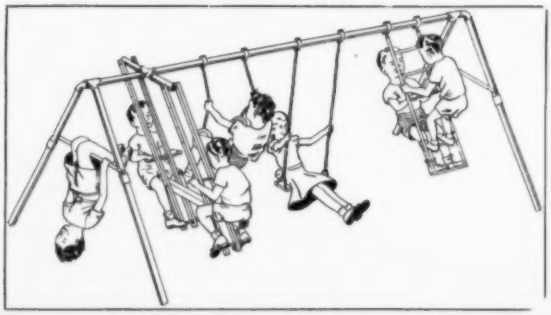
The session was highlighted by the report of county health surveys taken in Ohio and Mississippi and the extent to which local communities, both urban and rural, were meeting their health programs.

RESIDENTS ALLOTTED FOR OKLAHOMA HOSPITALS

At a recent meeting of the Oklahoma Advisory Committee for Physicians, the form accepted by the National Advisory Committee to Selective Service was interpreted in line with the needs and requirements of Oklahoma hospitals approved for residency training. The Committee action was based on a previously conducted survey of the hospitals as to both their number of beds, type of service rendered, and ownership.

Committee action resulted in an approximate reduction of 25 per cent in the number of residencies that were approved.

Children Play Safely On "REX Playground Equipment"



Provide your children with companionship and safe, healthy play. Keep them happy and entertained in their own back yard.

Rex Playground Equipment is rigidly built of steel pipe. Cross bar swing clamps have bearings — frictionless operation. Extra heavy non-rusting chain. Strong enough to hold grown-ups.

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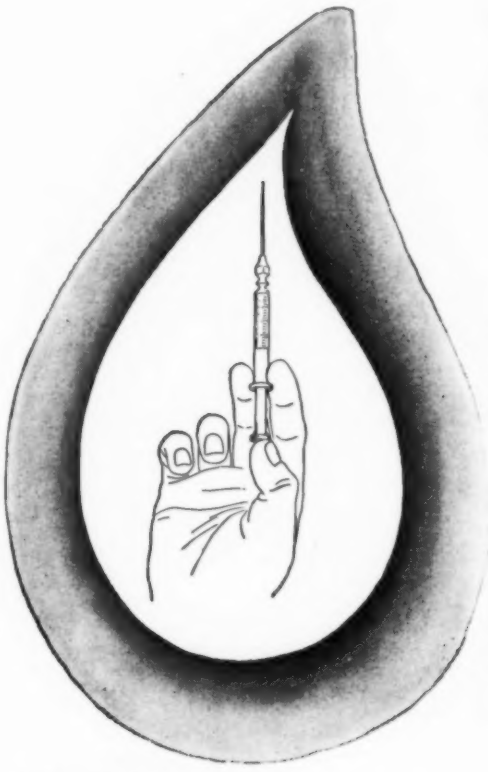

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for Physician and Patient

Extremely well tolerated and rarely causing irritation on injection, Dihydrostreptomycin Sulfate has become a most widely accepted streptomycin preparation.

***Comparative studies by leading clinicians confirm that* DIHYDROSTREPTOMYCIN SULFATE IS—**

as effective as streptomycin [2, 9, 13-15]

less toxic for the vestibular apparatus [1-15]

minimizes pain and swelling at the site of injection [6, 10]

may be used even in patients showing allergic response to streptomycin [2, 9, 10, 11]

Extensive experimental studies [6, 9, 16-18] ***proved* CRYSTALLINE DIHYDROSTREPTOMYCIN SULFATE MERCK *less toxic for the vestibular system.***

BIBLIOGRAPHY

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ANNOUNCEMENTS

OKLAHOMA STATE MEDICAL ASSOCIATION. 58th Annual Meeting, Tulsa. May 21, 22, 23, 1951, Mayo Hotel. House of Delegates May 20.

OKLAHOMA ACADEMY OF GENERAL PRACTICE. Third Annual Meeting. April 16 and 17, Hotel Youngblood, Enid, Oklahoma.

AMERICAN COLLEGE OF PHYSICIANS. April 9-13, 1951, St. Louis, Mo. Complete Frisco train schedule appears on this page.

SOUTHWEST ALLERGY FORUM. San Antonio, Texas, April 8, 9, 10, 1951, Plaza Hotel.

NORTH TEXAS-SOUTHERN OKLAHOMA Fall Clinical Conference. Wichita Falls, Texas, September 19, 1951. W. L. Powers, M.W., 517 Hamilton Building, Wichita Falls, Chairman.

THIRD WESTERN INSTITUTE ON EPILEPSY. Dates changed to June 22-24, 1951, Salt Lake City, Utah.

TEXAS MEDICAL CENTER, Houston, Texas announces several meetings slated for April 20 and 21. They are the fifth annual symposium on fundamental cancer research, cancer pathology conference, South Central region meeting of the College of American Pathologists.

SECTIONAL MEETING OF THE AMERICAN COLLEGE OF SURGEONS. Denver, Colorado, April 5, 6, 7, 1951. Further information can be obtained from Kenneth C. Sawyer, M.D., F.A.C.S., Chairman of the Committee on Arrangements, 40 East Erie Street, Chicago 11, Ill.

MID-CONTINENT PSYCHIATRIC ASSOCIATION. Meeting scheduled for March 31, April 1, Hotel President, Kansas City, Mo.

AMERICAN COLLEGE OF PHYSICIANS. Postgraduate course on diseases due to allergic and immune mechanisms, April 24-28, Pittsburgh, Pa.

SOUTHERN SOCIETY OF CLINICAL SURGEONS. Cleveland, Ohio, April 2, 3, and 4, 1951. Headquarters Hotel Wade Park Manor.

FIRST INSTRUCTOR DIES

First full time postgraduate instructor of the Oklahoma State Medical Association was Edward N. Smith, M.D., who died February 26, 1951. Doctor Smith came to Oklahoma in 1938 as instructor and conducted the first course in obstetrics and gynecology. He was well known throughout the state, not only because of his lectures to physicians, but for his lectures to lay groups educating them on the common causes of death in childbirth and how they can be avoided and other problems in obstetrics and gynecology.

AMERICAN COLLEGE OF PHYSICIANS
ST. LOUIS, MO.
APRIL 9-13, 1951

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Lv. Okla. City, Streamlined "Meteor" 7:00 PM Daily
Lv. Tulsa, Streamlined "Meteor" 9:45 PM Daily
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Lv. St. Louis 7:00 PM OR 11:20 PM Daily
Ar. Tulsa 5:30 AM OR 10:00 AM Next Day
Ar. Oklahoma City 8:25 AM OR 1:30 PM Next Day

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Relationship of Stress to Autonomic Lability

Studies in psychosomatics have shown that functional disorders often are a result of the patient's inability to adjust to emotionally stressful situations (stressor factors).

Nervous tension and chronic anxiety, discharged through a labile Autonomic Nervous System, can cause somatic disturbance. [1,2] Such states may involve any one of the organ systems or several at one time. [1,3] The outline below is designed to relate gastrointestinal and cardiovascular symptomatology to the exaggerated response of the autonomic nervous system.

	Physiologic Effects of Autonomic Discharge	
	Sympathetic	Parasympathetic
Gastro-intestinal System	Hypomotility Intestinal Atony Hyposecretion Reduced salivation	Hypermotility Gastrointestinal spasm Hypersecretion
Cardio-vascular System	Rapid heart rate Peripheral vaso-constriction	Slow heart rate Vasodilatation
Functional Manifesta-tions	Palpitation Tachycardia Elevated blood pressure Dry mouth and throat	Heartburn Nausea-vomiting Low blood pressure Colonic spasm

The data here tabulated is from references 3,4,5,6,7, given below.

When the clinical picture is suggestive of functional disorder, the diagnosis is supported by the presence of the following indications of autonomic lability:

Variable Blood Pressure
Body Temperature Variations
Changing pulse rate
Deviations in B. M. R.
Exaggerated Cold Pressure Reflex
Oculo-Cardiac Reflex Abnormalities
Glucose Tolerance Alterations

Therapy in these cases is directed toward: 1) relieving the somatic disturbance to prepare the patient for psychotherapy*; 2) guidance in making adjustment to stressful situations and correction of unhealthy attitudes.

*Drug treatment using adrenergic and cholinergic blocking agents in conjunction with sedatives. [8,9,10]

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BOOK

REGIONAL ORTHOPEDIC SURGERY. Paul C. Colonna, M.D. Philadelphia, W. B. Sanders Company, 1950.

This volume is a very timely work designed particularly for the use of students and as a reference book for others who see orthopedic conditions as a diagnostic problem, and so desire a ready reference to a specific discussion of the various regions of the body.

As the title implies the material is taken up from the standpoint of regions of the body rather than by pathological conditions. While in the ordinary text, tuberculosis of a joint, for instance, will be described as a disease entity applied to the various locations of the body; in this excellent work tuberculosis is considered in conjunction with other conditions of that particular joint. Hence, in the description of ankle pathology, there is a clear review of tuberculosis of the ankle as compared to other conditions about the ankle. The same applies to the knee, the spine and so forth.

This, of course, makes the book particularly valuable to the practitioner presented with a specific diagnostic problem. Instead of having to look up each separate disease and condition and find out its relation to a certain body area, he has here before him a certain body area discussed from the standpoint of the various conditions which affect it.

A book, of some 700 pages covering the whole field of orthopedic and fracture surgery, must of necessity be rather brief. This is of considerable value, considering its method of presentation since if one wants a more exhaustive description of any one of the specific diagnostic problems which are presented, he can narrow his diagnostic field by careful reference to this regional description and then look it up in a more detailed and more comprehensive work about the particular pathology involved.

This book should be particularly valuable to the student in that the material is presented simply and clearly with an effort to emphasize those things which are encountered most frequently rather than to have lengthy descriptions of very rare conditions which are seldom encountered by the student or general practitioner.

This book will be a very welcome addition to the medical school library and to the library of the general practitioner as well as the physician specializing in bone and joint conditions. Since Doctor Colonna spent several years as head of the Orthopedic Department at the University and Crippled Childrens Hospitals in Oklahoma City, this book is of especial interest to the doctors in this area.—Don H. O'Donoghue, M.D.

JAMES LIND, FOUNDER OF NAUTICAL MEDICINE. Louis H. Roddis, Captain, Medical Corps, U.S. Navy. New York, Henry Schuman, 1950. Price $3.00.

Here is the interesting story of Dr. Jabe Lind (1716-94) the "judicious and indefatigable" worker in the field of medicine who has been called the "father of nautical medicine".

It is not only an engrossing biographical treatise but it brings into bold relief the development of seafaring vessels passing from oars to sails and finally to steam powered speed. Under oars long journeys far from shore were impossible, consequently fresh food was available. But later when windfilled sails carried vessels far to sea, on salt cured meat and sea biscuits, scurvy began to take its toll. This so-called "ship di-

REVIEWS

sense'' became so disastrous that prevention and control became imperative if transportation and sea power were to be developed and preserved. Finally, the intellectual curiosity that put ships under steam served the cause of scurvy and finally cinched its prevention and cure.

The story supplies much information on the side issues of sea-faring, namely, lice and typhus, women, grog and gonorrhea. Apropos the old saying ''a woman in every port'' the author indicates that at one time in Portsmouth alone there were 5000 prostitutes and 300 grog shops, the latter guaranteed ''a drink for a penny, dead drunk for two pence''.

Even with the gradually dawning light on the question of scurvy, prevention and cure were long delayed and imperfectly pursued for want of refrigeration and knowledge as to how the vitamin content of foods might be preserved. It was known that Dutch whalers escaped scurvy because of sauerkraut, one of the few salt preserved foods which retain a certain percentage of vitamin content.

The biographer points out the fact that for a hundred years before prevention and cure became effective it was known by some that lemon juice would both prevent and cure. The slow evolution of this knowledge culminating in Lind's work and writings which led to universal acceptance of the sound principles so easily practiced under modern methods of transportation, refrigeration and preservation of fresh foods.

This well written story of Doctor Lind's life portrays one of the most important advances in the history of medicine.—Lewis J. Moorman, M.D.

PHYSIOLOGY OF THE EYE — CLINICAL APPLICATION. Francis Heed Adler, M.A., M.D., F.A.C.S. C. V. Mosby Company, St. Louis, 1950.

Much progress has been made in the past 20 years in the basic physiology of the eye and many of the old theories have been discarded, thus this in an entirely new book and not a revision of an old one.

The physician, to competently handle and treat diseases of the eye, should know the normal function of the various parts of the eye. Of course, it is true that the physiology of many parts of the eye are controversial and many have not yet been explored. However, the author goes into great detail explaining the anatomy, chemistry, and physiology of the different components of the eye and correlates them nicely with pathological and diseased conditions and the proper methods of treatment.

Of the many controversial physiological aspects, the author attempts to present the most widely accepted theories, and discusses each one's strong and weak points — then discusses the one or combination of several as the most probable in his point of view.

The author begins with the eyelids, and working posteriorly into the eye, covers the basic principles of anatomy, and physiology of the lacrimal apparatus, the cornea, the aqueous, the intra-ocular pressure, the iris and pupil, and the lens and vitreous.

The chapter on motility of the eye is especially good and includes the gross anatomy and action of each of the ocular muscles along with the pathological physiology of the strabismus.

Other chapters of particular interest are the Ocular Circulation, Light, Photo Chemistry of Vision, Visual Pathways, Adaptation, Visual Acuity, Color Vision and Binocular Vision.—Dick Lowry, M.D.

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OBITUARIES

EDWARD N. SMITH, M.D.
1902-1951

Edward N. Smith, M.D., well known Oklahoma City obstetrician and gynecologist, died February 26, 1951, following a heart attack in his office.

Doctor Smith, who was born at Creston, Washington, October 18, 1902, was the Oklahoma State Medical Association postgraduate lecturer in obs.-gyn. in 1938 and 1939. He was graduated from the University of Pennsylvania in 1927 and received a doctor of science degree in obstetrics at Physicians and Surgeons, New York City, 1937. He interned at Cooper hospital, Camden, New Jersey, and later was resident obstetrician at the Margaret Hague hospital, Jersey City, N. J. Before going to the University of Pennsylvania he was graduated from Washington State College, Pullman, Washington, in 1923.

Doctor Smith had been certified by the American Board of Obstetrics and Gynecology. In 1949, he went to Alaska with a medical team of lecturers who gave instruction to physicians in remote outposts. For several years he had been chairman of the Oklahoma State Medical Association Committee on Maternity and Infancy.

Survivors are his widow of the home and four children, and his parents of Olympia, Washington.

WILLIAM THOMAS BLOUNT, M.D.
1877-1951

W. T. Blount, M.D., Durant, died February 12 following a heart attack.

Doctor Blount, who practiced at Maud, Tupelo and St. Louis, Oklahoma, came to Durant in 1937. He retired from active practice in 1945.

Doctor Blount was born in Baxter County, Arkansas, January 16, 1877 and attended Quitman College and began teaching in the public schools of Baxter county at the age of 16. He received his M.D. degree at Little Rock, Arkansas in 1906. He was a member of the Methodist church and a 32nd degree Mason. He was also a member of Bedouin Shrine temple of Muskogee. Doctor Blount was an ardent outdoor sportsman and only 10 days before his death, he had made a hunting trip to Old Mexico with friends.

A. G. HUGHEY, M.D.
1868-1951

A. G. Hughey, M.D., pioneer Oklahoma physician, died at his home in Dewar February 8, 1951.

Doctor Hughey was born December 22, 1868, in Mississippi and graduated from Memphis Medical School in 1891. He came to Indianola in Indian Territory days and later moved to Dewar.

Survivors include his widow, three children and four grandchildren, two brothers and one sister.

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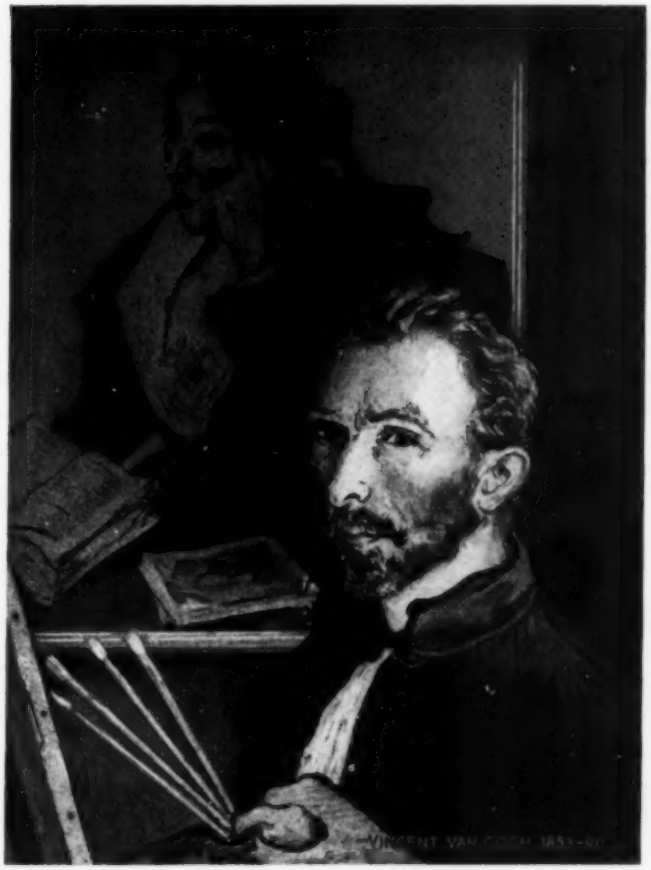
Karl J. Waggener, M.D. **Wendell T. Wingett, M.D.**



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* Hamblen, E. C.: Some Aspects of Sex Endocrinology in General Practice, North Carolina M. J. 7:533 (Oct.) 1946.

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Welcome To Tulsa

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58TH ANNUAL MEETING

OKLAHOMA STATE MEDICAL ASSOCIATION

May 21-22-23, 1951

Greetings From The Tulsa County Medical Society:

It is with the greatest pleasure that the medical profession of Tulsa welcomes the Oklahoma State Medical Association to Tulsa for its 58th Annual Meeting, May 21-23, 1951. As the printed program indicates, a splendid series of scientific and social events has been arranged. We are particularly proud of the panel of distinguished guest speakers whose papers will highlight the scientific program. Many additional special features will add to your enjoyment of the meeting. We hope that you will plan now to attend the 1951 Annual Meeting.

The Tulsa County Medical Society will be your host at a social hour immediately preceding the President's Annual Dinner Dance on Tuesday, May 22, 1951, at 6:00 P.M., at the Tulsa Club. The doctors of Tulsa look forward to again being your hosts.

W. A. SHOWMAN, M.D.

President

HOTEL ACCOMODATIONS

Adequate housing facilities have been arranged for convention visitors at five of Tulsa's modern and attractive hotels. For hotel accomodations please write at the earliest date to the Hotels Committee, Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa. Please do not write hotels direct. State date of arrival, date of departure, the approximate time of arrival, type of accomodation desired (single, double, twin bedroom, etc.), and any other pertinent information. As it will not be possible to quarter all visitors in the Mayo, please state second and third choice hotels. (Adams Hotel, 4th & Cheyenne; Alvin Hotel, 7th & Main; Bliss Hotel, 2nd & Boston; Mayo, 5th & Cheyenne; Tulsa Hotel, 3rd & Cincinnati).

REGISTRATION

Registration will open Monday, May 21, on the 16th Floor of The Mayo, at 8:00 A.M. Delegates and other visiting members may register in advance on Sunday, May 20, on the North Mezzanine of The Mayo beginning at 1:00 P.M. Members must present their 1951 membership card in the Oklahoma State Medical Association. No dues for 1951 will be accepted at the registration desk except from county society secretaries. Visiting doctors from other states, members of the armed forces, and interns and residents will be accorded guest privileges. No others may register without permission of the Registration Chairman.

ANNUAL MEETING COMMITTEE

Robert E. Funk, M.D., Tulsa, General Chairman; John G. Matt, M.D., Tulsa, Scientific Works; John E. McDonald, M.D., Tulsa, Social Events; Edward L. Moore, M.D., Tulsa, Publicity; I. H. Nelson, M.D., Tulsa, Commercial Exhibits; Berget H. Blocksom, M.D., Tulsa, Registration; Paul N. Atkins, Jr., M.D., Tulsa, Annual Golf Tournament; Felix R. Park, M.D., Tulsa, Motion Pictures.

J.O.S.M.A. vol. 5, May, 1951.

Distinguished Guest Speakers

RAMON CASTROVIEJO, M.D.

New York, N.Y.

Clinical Professor of Ophthalmology, College of Physicians & Surgeons, Columbia University. Diplomate, American Board of Ophthalmology. Diplomate, American Board of Plastic Surgery. Fellow, American Academy of Ophthalmology & Otolaryngology. Member, American Ophthalmological Society. Visiting Ophthalmologist, Vanderbilt Hospital, New York, N.Y. Attending Ophthalmologist, Presbyterian Hospital, New York.

LESTER R. DRAGSTEDT, M.D.

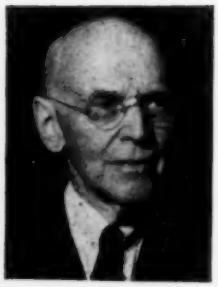
Chicago, Illinois

Professor and Chairman of the Department of Surgery, University of Chicago. American Medical Association Gold Medal Award, 1950. Fellow, American College of Surgeons. Diplomate, American Board of Surgery. Fellow, American Surgical Association. Fellow, American College of Physicians. Member, Central Surgical Society. Member, The National Academy of Sciences.

JAMES G. HUGHES, M.D.

Memphis, Tennessee

Associate Professor of Pediatrics, University of Tennessee School of Medicine. Diplomate and Examiner, American Board of Pediatrics. Member, Society For Pediatric Research. President and Chairman of the Board of Directors, Memphis Speech and Hearing Center. Secretary of the Section on Pediatrics, Southern Medical Association. Former Instructor in Pediatrics, Oklahoma State Medical Association Postgraduate Education Program.



ELLIOTT P. JOSLIN, M.D.

Boston, Massachusetts

Professor Emeritus of Clinical Medicine, Harvard University. Diplomate, American Board of Internal Medicine. Fellow, American College of Physicians. American Medical Association Distinguished Service Medal, 1943. Past President, American Society For Clinical Investigation. Honorary President, American Diabetes Association. Kober Foundation Medal For Outstanding Research, 1932.

Distinguished Guest Speakers

HOWARD T. KARSNER, M.D.

Washington, D.C.

Consultant in Pathology to the Bureau of Medicine and Surgery, Department of the Navy. President, National Board of Medical Examiners. Past-President, American Society For Experimental Pathology. Diplomate, American Board of Pathology. Formerly Professor and Chairman of the Department of Pathology, Western Reserve University School of Medicine. Associate Editor, American Journal of Pathology.

JOHN L. McKELVEY, M.D.

Minneapolis, Minnesota

Professor and Chairman of the Department of Obstetrics and Gynecology, University of Minnesota School of Medicine. Diplomate, American Board of Obstetrics & Gynecology. Fellow, American Gynecological Society. Formerly member of the faculty, Johns Hopkins Medical School. Formerly Professor of Obstetrics, Rockefeller Medical School, Peiping, China.

HARRISON L. McLAUGHLIN, M.D.

New York, N.Y.

Professor of Clinical Orthopedic Surgery, College of Physicians and Surgeons, Columbia University. Attending Orthopedic Surgeon, Presbyterian Hospital, New York. Fellow, American College of Surgeons. Member, New England Surgical Society.

ERNEST E. MUIRHEAD, M.D.

Dallas, Texas

Professor and Chairman of the Department of Pathology, Southwestern Medical School. Diplomate, American Board of Pathology. Member, American Society of Clinical Pathologists, American Surgical Association.

Monday, May 21, 1951

GENERAL SESSION

Crystal Ballroom, 16th Floor, The Mayo
Alfred R. Sugg, M.D., Ada, Chairman

8:30 A.M. **EMERGENCY TREATMENT OF SEVERE HEAD INJURIES**
Howard L. Puckett, M.D., Stillwater

8:50 A.M. **FACE INJURIES**
George H. Kimball, M.D., Oklahoma City

9:10 A.M. **PENETRATING ABDOMINAL INJURIES**
Charles M. O'Leary, M.D., Oklahoma City

9:30 A.M. **THE INJURED OR PAINFUL SHOULDER**
Harrison L. McLaughlin, M.D., New York, N.Y.

10:45 A.M. **FURTHER STUDIES ON TULAREMIA IN THE OZARKS: A REVIEW OF 44 CASES OCCURRING DURING A PERIOD OF THREE YEARS**
Warren C. Corwin, M.D., Chief of Medical Service, and S. P. Stubbs, M.D., United States Veterans Administration Hospital, Fayetteville, Arkansas. (By Invitation)

11:15 A.M. **AN APPRAISAL OF GASTRIC VAGOTOMY IN THE TREATMENT OF PEPTIC ULCER**
Lester R. Dragstedt, M.D., Chicago, Ill.

MOTION PICTURES

Ivory Room, Mezzanine, The Mayo
8:30 A.M. — 10:00 A.M.

"OBSTETRIC ROENTGENOLOGY"
Courtesy Jefferson Medical College, Philadelphia, Pa.

"OBSERVATIONS ON HEPATITIS"
By Joseph Stokes, Jr., M.D., Philadelphia, Pa. Courtesy Mead Johnson Company, Evansville, Indiana

"CANCER: THE PROBLEM OF EARLY DIAGNOSIS"
Prepared by the American Cancer Society. Courtesy Oklahoma State Department of Health, Oklahoma City.

PUBLIC RELATIONS LUNCHEON

Ivory Room, The Mayo, 12:30 P.M.
John W. Cline, M.D., San Francisco, California, President-Elect, American Medical Association, Guest Speaker.

MEDICAL SECTION

Ralph A. Smith, M.D., Oklahoma City, Chairman
Ivory Room, Mezzanine, The Mayo

2:15 P.M. **MANAGEMENT OF CHRONIC SUPPURATIVE PULMONARY DISEASES**
Robert M. Shepard, Jr., M.D., Tulsa

2:35 P.M. **HEMOPTYSIS**
Paul B. Cameron, M.D., Pryor

2:55 P.M. **NON-PSYCHOGENIC NEURASTHENIA**
Rayburne W. Goen, M.D., Tulsa

3:15 P.M. **MEDICAL MANAGEMENT OF HYPERTENSIVE VASCULAR DISEASE**
James D. Loudon, M.D., Shawnee

3:35 P.M. **DIAGNOSIS OF CONGENITAL HEART DISEASE**
James F. Tagge, M.D., Enid

4:00 P.M. **THE SMALL CHILD—ITS DIAGNOSIS AND MANAGEMENT**
H. J. Rubin, M.D., Tulsa

4:20 P.M. **FRACTIONAL GLANDULAR DISTURBANCES**
Joe L. Duer, M.D., Woodward

SURGICAL SECTION

J. M. Parrish, Jr., M.D., Oklahoma City, Chairman
Crystal Ballroom, 16th Floor, The Mayo

2:15 P.M. **SPONTANEOUS RUPTURE OF THE ESOPHAGUS**
Robert L. Anderson, M.D., Tulsa

2:35 P.M. **CORNEAL TRANSPLANTATION—PRESENT STATUS**
Ramon Castroviejo, M.D., New York, N.Y.

3:35 P.M. **VAGINAL HYSTERECTOMY**
Joseph W. Kelso, M.D., Oklahoma City

4:05 P.M. **STUDIES OF TREATMENT PROBLEMS OF ADENOCARCINOMA OF ENDOMETRIUM**
John L. McKelvey, M.D., Minneapolis, Minn.

UNIVERSITY OF OKLAHOMA SCHOOL OF MEDICINE ALUMNI ASSOCIATION

Social Hour, Open Parlors, Mezzanine, The Mayo, 6:00 P.M.

For ALL doctors and their wives attending the Oklahoma State Medical Association Annual Meeting.

The official class reunions of 1911, 1921, 1931, and 1941 will be at this time also in the same place. (Sponsored by the OU School of Medicine Alumni Association).

L. J. Moorman, M.D., former Dean and Professor Emeritus of Internal Medicine, University of Oklahoma School of Medicine, will be the honored guest.

Ollie McBride, M.D., President, University of Oklahoma School of Medicine Alumni Association, presiding.

Tuesday, May 22, 1951

GENERAL SESSION

Ralph A. McGill, M.D., Tulsa, Chairman
Crystal Ballroom, 16th Floor, The Mayo

8:30 A.M. **RECENT ADVANCES IN THE TREATMENT OF BURNS**
A. Ray Wiley, M.D., Tulsa

9:00 A.M **SOME NEW CONTRIBUTIONS TO THE PHYSIOLOGY OF GASTRIC SECRETION AND THEIR RELATION TO THE ULCER PROBLEM**
Lester R. Dragstedt, M.D., Chicago, Ill.

10:00 A.M **SIGNIFICANCE AND TECHNIQUES OF LOCAL ANESTHESIA IN OBSTETRICS**
John L. McKelvey, M.D., Minneapolis, Minn.

11:00 A.M. **THE YOUNGER DIABETIC AND THE CONTROL OF HIS DISEASE WITH THE HELP OF THE HOSPITAL TEACHING CLINIC**
Elliott P. Joslin, M.D., Boston, Mass.

11:45 A.M. **CORTISONE AND ACTH: A SYMPOSIUM**
Participants: Ramon Castroviejo, M.D., New York, N.Y.; Howard T. Karsner, M.D., Washington, D. C.; Harrison L. McLaughlin, M.D., New York, N.Y., Ernest E. Muirhead, M.D., Dallas

MOTION PICTURES

Ivory Room, Mezzanine, The Mayo
8:30 A.M. — 12:00 Noon

"APPENDICITIS IN CHILDHOOD"
By Joseph Brenneman, M.D., Los Angeles, Calif. Courtesy Mead Johnson Company, Evansville, Indiana

"CHOLECYSTOJEJUNOSTOMY"
By Philip Thorek, M.D., Chicago, Ill. Courtesy Dr. Thorek.

"DISEASES OF THE GALLBLADDER"
By H. P. Jenkins, M.D., Chicago, Ill. Courtesy Dr. Jenkins.

"STREPTOMYCIN DRUGS IN THE TREATMENT OF TUBERCULOSIS"
By H. Corwin Hinshaw, M.D., San Francisco, Calif. Courtesy E. R. Squibb & Co., New York, N.Y.

"EMBRYOLOGY OF THE EYE"
Prepared by the American Academy of Ophthalmology and Otolaryngology. Courtesy American Medical Association, Chicago, Ill.

"SUPRADIAPHRAGMATIC VAGOTOMY FOR PEPTIC ULCER"
By Lester R. Dragstedt, M.D., Chicago, Ill. Courtesy Davis & Geck Company, Brooklyn, N.Y.

"PREFRONTAL LOBOTOMY IN THE TREATMENT OF MENTAL DISORDERS"
"SYMPTOMS OF SCHIZOPHRENIA"
"I AM AN ALCOHOLIC"
Three films made available through the courtesy of the Mental Health Division of the Oklahoma State Health Department, Oklahoma City

COMPLIMENTARY BLUE CROSS-BLUE SHIELD BUFFET LUNCHEON

Blue Cross Offices, 315 South Denver, 12:00 Noon

SURGICAL SECTION

Crystal Ballroom, 16th Floor, The Mayo
Harry C. Ford, M.D., Miami, Chairman

2:00 P.M. **ADENOMAS OF THE LARGE BOWEL**
J. D. Shipp, M.D., Tulsa

2:20 P.M. **SURGICAL CONDITIONS IN THE FIRST YEARS OF LIFE**
James G. Hughes, M.D., Memphis, Tenn.

3:00 P.M. **COMPLICATIONS OF GASTRIC SURGERY**
Edward L. Moore, M.D., Tulsa

3:20 P.M. **THE MANAGEMENT OF ACUTE PERFORATED PEPTIC ULCER**
W. Pat Fite, M.D., Muskogee, and Albert H. Krause, M.D., Muskogee

3:40 P.M. **INJURIES TO THE REGION OF THE ANKLE JOINT**
Harrison L. McLaughlin, M.D., New York, N.Y.

4:30 P.M. **HERNIATED INTERVETEBRAL DISK: INDICATIONS FOR MORTICED BONE-BLOCK FUSION**
Earl D. McBride, M.D., Oklahoma City

MEDICAL SECTION

Henry G. Bennett, Jr., M.D., Oklahoma City, Chairman
Ivory Room, Mezzanine, The Mayo

1:45 P.M. **COLON OBSTRUCTIONS**
Lucien M. Pascucci, M.D., Tulsa

2:05 P.M. **MEDICAL MANAGEMENT OF CHRONIC ULCERATIVE COLITIS**
Terrell Covington, Jr., M.D., Tulsa

2:25 P.M **SURGICAL TREATMENT OF GLAUCOMA**
Ramon Castroviejo, M.D., New York, N.Y.

3:25 P.M. **GENERAL PATHOLOGY OF ENDOCRINE TUMORS**
Howard T. Karsner, M.D., Washington, D.C.

4:25 P.M. **PERITONEAL IRRIGATION: A SIMPLIFIED METHOD AND ITS INDICATIONS**
Ernest E. Muirhead, M.D., Dallas, Texas

PRESIDENT'S ANNUAL DINNER DANCE

Tulsa Club

Social Hour, 6:00 P.M. Dinner 7:00 P.M.

Wednesday, May 23, 1951

GENERAL SESSION

Crystal Ballroom, 16th Floor, The Mayo

L. Chester McHenry, M.D., Oklahoma City, Chairman

8:30 A.M. **ACUTE APPENDICITIS**
R. G. Stoll, M.D., Chickasha

8:50 A.M. **MALIGNANCY OF THE THYROID GLAND**
Harrell Dodson, M.D., Oklahoma City; Leo J. Starry, M.D., Oklahoma City; and Mr. Paul J. Rosenbaum, Oklahoma City

9:10 A.M. **ACUTE NEPHRITIS**
James G. Hughes, M.D., Memphis, Tenn.

10:00 A.M. **FUNCTIONING TUMORS OF THE ADRENAL GLAND**
Howard T. Karsner, M.D., Washington, D.C.

11:00 A.M. **THE ROLE OF POTASSIUM IN THE BODY**
John B. Morey, M.D., Ada

11:20 A.M. **INCOMPLETE BLOOD TRANSFUSIONS: CAUSES, COMPLICATIONS, AND TREATMENT**
Ernest E. Muirhead, M.D., Dallas, Texas

MOTION PICTURES

Ivory Room, Mezzanine, The Mayo

8:30 A.M. — 12:00 Noon

"THE SURGICAL TREATMENT FOR CONGENITAL PYLORIC STENOSIS"
By Philip Thorek, M.D., Chicago, Ill. Courtesy Dr. Thorek.

"SUBSTITUTION TRANSFUSION IN THE TREATMENT OF ERYTHROBLASTOSIS FETALIS"
By Harry Wallerstein, M.D., New York, N.Y. Courtesy Dr. Wallerstein.

"ATOMIC MEDICAL CARE"
Prepared by the United States Army Medical Corps. Courtesy Army Surgeon, Fourth Army, San Antonio, Texas

"POLIO DIAGNOSIS AND MANAGEMENT"
By H. J. Seddon, M.D., London, England. Courtesy American Medical Association

The remaining time in this session will be devoted to repeat showing of any film in the series upon request of the operator.

ANNUAL GOLF TOURNAMENT AND DINNER

Indian Hills Country Club

Golfing From 12:00 Noon — Dinner, 7:00 P.M.

GENERAL SESSION

Ivory Room, Mezzanine, The Mayo

F. Redding Hood, M.D., Oklahoma City, Chairman

1:30 P.M. **MANAGEMENT OF UROLOGICAL PROBLEMS IN GENERAL PRACTICE**
Emanuel N. Lubin, M.D., Tulsa

1:50 P.M. **THE MEDICAL MILITARY SCENE: A SYMPOSIUM**
Brigadier-General Paul I. Robinson, Chief of Personnel, Office of the Surgeon General, Department of the Army, Washington, D.C.
Colonel Richard H. Eanes, M.C., U.S.A., Ret., Chief Medical Officer, Selective Service System, Washington, D.C.

3:00 P.M. **LATEST TREATMENT IN GENERAL PRACTICE: A SYMPOSIUM PREPARED BY THE SCHOOL OF MEDICINE, UNIVERSITY OF OKLAHOMA, OKLAHOMA CITY, OKLAHOMA**
Mark H. Everett, M.D., Dean, Moderator

USE OF NEWER ANTIBIOTICS
R. Q. Goodwin, M.D., Oklahoma City, Chairman of the Department of Medicine

RECENT ADVANCES IN CANCER DIAGNOSIS AND TREATMENT
Hal A. Burnett, M.D., Oklahoma City, Instructor in Surgery

RECENT ADVANCES IN THE TREATMENT OF THE ANEMIAS
Cleve Beller, M.D., Oklahoma City, Assistant Professor of Medicine

RECENT ADVANCES IN THE MANAGEMENT OF MYOCARDIAL INFARCTION
W. T. McCollum, M.D., Oklahoma City, Instructor in Medicine

PRESENT DAY METHODS CONCERNED WITH THE RELIEF OF INTRACTIBLE PAIN
Maurice P. Capehart, M.D., Tulsa

Social Events

PRESIDENT'S ANNUAL DINNER DANCE

Tuesday, May 22, 1951

Tulsa Club

R. B. Robins, M.D.

PROGRAM

6:00 P.M. Social Hour, Main Lounge, Tulsa Club. Compliments of the Tulsa County Medical Society.

7:00 P.M. Dinner, Main Dining Room, Tulsa Club.

Robert E. Funk, M.D., Tulsa, Presiding.

Introduction of Guests and Officers.

Inaugural Ceremonies for L. Chester McHenry, M.D., Oklahoma City, President.

"Medical Chitchat". An Address by R. B. Robins, M.D., Camden, Arkansas, Vice-President of the American Medical Association.

9:30 P.M. Dancing, Main Dining Room, Tulsa Club. Until 1:00 A.M.

dancing to the music of

DICK JURGENS and his orchestra

One of America's top-name bands, Dick Jurgens and his Orchestra will offer three and one-half hours of dancing and entertainment to visiting doctors. Now on a nation-wide tour, the Jurgens band has broken records at the famous Hollywood Palladium, the Chicago Trianon Ballroom, and the Hotel Astor Roof in New York. A Columbia recording star, Jurgens is best known for his famous hits "Elmer's Tune" and "One Dozen Roses". Star of the Fitch Bandwagon, Coca Cola Spotlight Revue, and other radio series, Jurgens promises an evening of real entertainment.

Dick Jurgens

about tickets to the Dinner Dance . . .

Tickets to the President's Annual Dinner Dance are limited to the capacity of the Tulsa Club facilities—only 425 will be sold on a first come-first served basis. The price will be $6.50 per person. This price includes the social hour, dinner, inaugural program, and the Dick Jurgens dance. Members may purchase tickets in advance by sending their check, payable to the Oklahoma State Medical Association, to the Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa. Tickets will be available at the Registration Desk as long as they last.

ANNUAL GOLF TOURNAMENT AND DINNER

Wednesday, May 23, 1951

Indian Hills Country Club

Golfing at the beautiful Indian Hills Country Club, just east of Tulsa, will begin at 12:00 Noon, Wednesday, May 23rd. A delicious steak dinner will be served at 7:00 P.M. Many attractive prizes have been contributed for this event by Tulsa merchants. Transportation available. Reservations should be made at the Registration Desk at the earliest time.

Special Events

PUBLIC RELATIONS LUNCHEON
Monday, May 21, 1951, 12:30 P.M., The Mayo

A discussion of the public relations problems of American Medicine and how they are being met on the local, state, and national levels featuring as guest speaker

JOHN W. CLINE, M.D.

President-Elect, American Medical Association
San Francisco, California

John W. Cline, M.D.

Members of the Womans Auxiliary are invited to attend this luncheon with their husband. Attendance will be limited to the capacity of the Ivory Room, 225 persons. Tickets should be purchased at the time of registration. This luncheon is sponsored by the Public Policy Committee of the Oklahoma State Medical Association.

BLUE CROSS-BLUE SHIELD BUFFET LUNCHEON
Tuesday, May 22, 12:00 Noon

Visiting doctors are invited to attend an informal complimentary buffet luncheon on Tuesday, May 22, as the guests of the Blue Cross-Blue Shield Plans of Oklahoma. This event will be held at the Blue Cross offices, 315 South Denver, two blocks from the Mayo, with serving from 12:00 Noon to 2:00 P.M. Visitors will have an opportunity to inspect the Blue Cross offices.

SYMPOSIUM ON GENERAL PRACTICE

A symposium On Latest Treatment In General Practice will be presented at 3:00 P.M. on Wednesday, May 23, in the Ivory Room of The Mayo under the auspices of the University of Oklahoma School of Medicine. Designed for the general practitioner, the Symposium will feature faculty members of the School of Medicine as speakers. Complete details in the official program.

MEDICAL MOTION PICTURES

Medical and surgical motion pictures will be shown each morning, Monday through Wednesday, May 21-23, in the Ivory Room of The Mayo. A complete listing of the showings is to be found in the scientific program. A limited number of these films will be repeated upon request on Wednesday, May 23. These carefully selected films represent a wide selection of subjects in major fields of medicine.

RELATED MEDICAL MEETINGS

Many specialty medical organizations and other related groups plan scientific and business meetings immediately before and during the course of the 58th Annual Meeting. On Saturday and Sunday, May 19-20, the Oklahoma Medical Technologists Association will meet at Hotel Tulsa and the Medical Assistants Society of Oklahoma at the Alvin Hotel. Meetings of the Oklahoma Rheumatism Society, the Oklahoma Society of Anesthesiologists, and the Oklahoma Society of Psychiatrists and Neurologists are scheduled for Sunday, May 20, at The Mayo. The Oklahoma Radiological Society will meet Tuesday, May 22, at The Mayo. The Alumni Association of the University of Oklahoma School of Medicine will have a reception and social hour on Monday evening, May 21, at The Mayo.

SYMPOSIUM ON CORTISONE AND ACTH

In response to many requests, an hour-long symposium on ACTH and Cortisone will be held on Tuesday, May 22, at 11:45 A.M. in the Crystal Ballroom of The Mayo. Visiting guest speakers will participate.

THE MEDICAL MILITARY SCENE: AN OPEN FORUM

A discussion of the latest information concerning the requirements of the Armed Forces for medical doctors. Questions and answers from the floor will be received as time permits.

General Robinson

Wednesday, May 23, 1951
2:00 P.M. — The Mayo

Guest Speakers:

Brigadier General Paul I. Robinson

Chief of Personnel, Office of the Surgeon General, Department of the Army, Washington, D. C.

Colonel Richard H. Eanes

Medical Director, Selective Service System, Washington, D. C.

Colonel Eanes

OKLAHOMA PHYSICIANS VETERANS ASSOCIATION

Second Annual Meeting, May 20, 6:00 p.m.
Social Hour preceding business meeting
Officers are Paul Gallaher, M.D., Shawnee, President; Johnny A. Blue, M.D., Oklahoma City, Secretary-Treasurer, and Shade Neely, M.D., Muskogee, President-Elect.

SCIENTIFIC EXHIBITS

Emerald Room, The Mayo

The following scientific exhibits will be on display in the Emerald Room of The Mayo, Monday through Wednesday, May 21-23. Displays may be seen from 8:30 A.M. to 5:00 P.M. on Monday and Tuesday, and from 8:30 A.M. to 12:00 Noon on Wednesday. Additional exhibits will be added later as space permits.

THE USE OF INTRAMEDULLARY NAILS IN FRACTURES OF LONG BONES
By John E. McDonald, M.D., Tulsa; Frank A. Stuart, M.D., Tulsa; and John C. Dague, M.D., Tulsa.

POLIO: STATISTICAL REVIEW, MODERN DEVICES AND TREATMENT
By Hillcrest Memorial Hospital, Tulsa; Ian MacKenzie, M.D., Tulsa; Miss Alice Moeller, R.P.T., Tulsa.

PLASTIC SURGERY OF THE NOSE
By Donald L. Mishler, M.D., Tulsa.

A STUDY OF TULAREMIA IN THE OZARKS OVER A THREE-YEAR PERIOD
By Warren C. Corwin, M.D., Chief of Medical Service, and Samuel P. Stubbs, M.D., United States Veterans Administration Hospital, Fayetteville, Arkansas. By Invitation.

PLASTIC AND RECONSTRUCTIVE SURGERY
By George H. Kimball, M.D., Oklahoma City.

BRONCHOGENIC CARCINOMA AND CONDITIONS RESEMBLING IT
By United States Veterans Administration Hospital, Oklahoma City, C. E. Bates, M.D., Manager.

DISEASES OF BONES
By William K. Ishmael, M.D., Oklahoma City; J. N. Owens, Jr., M.D., Oklahoma City; and Miss Opal Rittersbacher, R.N., Oklahoma City.

UNUSUAL PLASTIC SURGERY CASES
By James W. Kelley, M.D., Tulsa.

MENTAL HEALTH: REFLECTING SOME WORK DONE IN STATE HOSPITALS BY THE OKLAHOMA STATE DEPARTMENT OF HEALTH
By Charles F. Obermann, M.D., Oklahoma City; Charles A. Smith, M.D. Norman; Felix M. Adams, M.D., Vinita; H. L. Johnson, M.D., Fort Supply; Carl T. Steen, M.D., Pauls Valley; E. P. Henry, M.D., Taft; and Miss Anna Scruggs, Enid.

VOLUNTARY HOSPITAL INSURANCE IN OKLAHOMA
Blue Cross-Blue Shield Plans of Oklahoma

INTRACRANIAL ANEURYSMS AND UNUSUAL TUMORS
Tulsa Neuropsychiatric and Neurosurgical Society

A STEREOTAXIC INSTRUMENT FOR PREFRONTAL LOBOTOMY
Tulsa Neuropsychiatric and Neurosurgical Society

DISEASES TRANSMITTED FROM ANIMAL TO MAN
American Medical Association

Commercial Exhibits

The 58th Annual Meeting of the Oklahoma State Medical Association is made possible in large measure by these thirty-five commercial exhibitors whose products and services are a valuable part of modern medicine. You will enjoy the opportunity of visiting their exhibits in the Exhibit Hall, 16th Floor, The Mayo. Booths will open daily, Monday through Wednesday, at 8:30 A.M. and remain open until the close of the scientific sessions, except on Wednesday, May 23, when exhibits will close at 12:00 Noon.

Booth Number	*Exhibitor*
1.	W. B. Saunders Co., Philadelphia, Pa.
2.	William S. Merrell Co., Cincinnati, Ohio.
3.	A. S. Aloe Co., St. Louis, Mo.
4.	Holland-Rantos Co., New York, N.Y.
5.	Schering Corporation, Bloomfield, N. J.
6.	Mid-Continent Surgical Supply Co., Tulsa, Okla.
7.	Merkel X-Ray Corporation, Tulsa, Okla.
8.	Producers Creamery Co., Springfield, Mo.
9.	Eli Lilly & Co., Indianapolis, Ind.
10.	M. & R. Dietetic Laboratories, Columbus, Ohio.
11.	Mead Johnson Co., Evansville, Ind.
12.	Carnation Milk Co., Los Angeles, Calif.
13.	Tri-State Pharmaceutical Co., Oklahoma City, Okla.
14.	A. H. Robins Co., Richmond, Va.
15.	The Dictaphone Corporation, Tulsa, Okla.
16.	Mid-West Surgical Supply Co., Wichita, Kansas.
17.	Ciba Pharmaceutical Laboratories, Summit, N. J.
18.	E. R. Squibb & Co., New York, N.Y.
19.	Coca-Cola Company, Tulsa, Okla.
20.	Parke Davis & Company, Detroit, Mich.
21.	Lederle Laboratories, New York, N.Y.
22.	Warren-Teed Products Co., Columbus, Ohio.
23.	G. D. Searle & Co., Chicago, Ill.
24.	United Medical Equipment Co., Kansas City, Mo.
25.	Wyeth, Inc., Philadelphia, Pa.
26.	R. P. Kincheloe Co., Dallas, Texas.
27.	The Upjohn Co., Kalamazoo, Mich.
28.	Philip Morris Tobacco Company, Ltd., New York, N.Y.
29.	Caviness-Melton Surgical Company, Oklahoma City, Okla.
30.	Ortho Pharmaceutical Corp., Raritan, N. J.
31.	General Electric X-Ray Corp., Oklahoma City, Okla.
32.	C. V. Mosby Co., St. Louis, Mo.
33.	Winthrop-Stearns, Inc., New York, N.Y.
34.	Smith-Dorsey Co., Lincoln, Neb.
35.	J. B. Lippincott Co., Philadelphia, Pa.

WOMAN'S AUXILIARY TO THE OKLAHOMA STATE MEDICAL ASSOCIATION
Tulsa, May 20, 21, 22 and 23, 1951 Hotel Tulsa

Mrs. McMurry

Mrs. Herold

Mrs. Thompson

Mrs. Mishler

Theme: "The FRONT is Everywhere"

SUNDAY, MAY 20, 1951

3:00—Afternoon Tea—Honoring Mrs. Arthur A. Herold, National President of Womens Auxiliary to the American Medical Association, Mrs. L. S. Thompson, President of Womens Auxiliary to the Southern Medical Association and Mrs. James F. Murry, President of the Womens Auxiliary to the Oklahoma State Medical Association. Home of Mrs. C. G. Stuard, 2418 East 37th Street. Courtesy of The Tulsa Chapter, Women's Auxiliary.

8:00—Executive Board Meeting—Mrs. James F. McMurry's suite, Hotel Tulsa.

MONDAY, MAY 21, 1951

Theme: "The FRONT is Everywhere"

8:00—Past Presidents' Breakfast — Oklahoma Room, Hotel Tulsa.

9:00—Registration—Mezzanine Floor, Hotel Tulsa.
Information — Mezzanine Floor, Mayo Hotel.

10:00—General Meeting—Mrs. James F. McMurry, Presiding, Junior Ball Room, Hotel Tulsa. All members and visiting physicians' wives welcome.
Call to Order—Mrs. James F. McMurry, President of Women's Auxiliary to the Oklahoma State Medical Association.
Pledge of Loyalty.

10:05—Invocation—Mrs. W. A. Hyde, Durant.

10:10—Greetings — Dr. Ralph M. McGill, President of the Oklahoma State Medical Association.

10:15—Roll Call by Counties—Mrs. George Garrison, Secretary-Treasurer of Women's Auxiliary to the O.S.M.A.

10:25—Reading and Adoption of Minutes.

10:30—Introduction of state officers, committee chairmen, county presidents and guests. Presentation of reports of all officers—Mrs. James F. McMurray.

10:45—"The National FRONT"—Mrs. Arthur Herold, President of Women's Auxiliary to American Medical Association.

11:20—Report of Nominating Committee—Mrs. D. L. Mishler, President-Elect of Women's Auxiliary to the O. S. M. A.

11:25—"The FRONT is in Your Own Backyard" — Dr. George Garrison, Past President of Oklahoma State Medical Association.

11:50—Announcements—Mrs. Rayburne W. Goen, Convention Chairman.

12:30—Public Policy Luncheon—John McDonald, M.D., Presiding, Ivory Room, Mayo Hotel. All physicians and their wives may make reservations.

2:00—Entertainment:
Bridge and Canasta — Hospitality Room, Hotel Tulsa. A conducted tour through the New First National Bank Building. Cars waiting to take convention guests on the Tulsa Residential Tour, or to Gilcrease Foundation.

TUESDAY, MAY 22, 1951

9:00—Registration — Mezzanine, Hotel Tulsa.
Information — Mezzanine, Mayo Hotel.

10:00—General Meeting — Mrs. James F. McMurry, Presiding, Junior Ball Room, Hotel Tulsa.
Call to Order

10:05—Invocation — Mrs. L. J. Spickard, Okemah, Oklahoma.

10:10—Report of Credentials—Mrs. M. C. England.

10:15—Roll Call of Voting Delegates—Mrs. George Garrison.

10:30—"Southern at the FRONT"—Mrs. L. S. Thompson, President of Southern Medical Auxiliary.

10:50—Unfinished Business

11:00—New Business

11:10—"The FRONT as Physicians' Wives"—Mrs. James Stevenson, Tulsa County Auxiliary

11:30—Election of Officers

11:45—Installation of Officers—Mrs. Clinton Gallaher, Immediate Past Persident, Women's Auxiliary to the Oklahoma State Medical Association.

12:05—Other Business

12:10—Adjournment.

1:00—Luncheon—Topaz Room, Hotel Tulsa, Mrs. H. W. Ford, President, Tulsa County Auxiliary, Presiding. "America at the FRONT" — Dr. John W. Cline, President-Elect of American Medical Association.
Music by Mr. and Mrs. Ralph Sassano, Directors of the Tulsa Opera Club.

2:00—Entertainment:
Bridge and Canasta — Hospitality Room, Hotel Tulsa. A conducted tour through the New Stanolind Building. Cars waiting to take convention guests to Philbrook Art Center and the Tulsa Rose Garden.

6:00—Social Hour—Courtesy of the Tulsa County Medical Society, Lounge of the Tulsa Club.

7:00—Annual President's Inaugural Dinner Dance—Tulsa Club, Dick Jergen's Orchestra.

WEDNESDAY, MAY 23, 1951

10:00—Breakfast—After Five Room, Hotel Tulsa.
Post Convention (School of Instruction) Board Meeting, Mrs. Donald L. Mishler, Presiding. Includes all State Officers, Chairmen of Committees, Council Women, Vice-Council Women, County Presidents and Presidents-Elect.

CONVENTION COMMITTEE

Convention Chairman ..... Mrs. Rayburne W. Goen
Registration ..... Mrs. Milton L. Berg
Hospitality ..... Mrs. Herbert S. Orr
Publicity ..... Mrs. George Miller
Luncheon ..... Mrs. Iron H. Nelson
Decorations ..... Mrs. Emry G. Hyatt
Transportation ..... Mrs. D. L. Garrett
Past Presidents ..... Mrs. Frank L. Flack
Entertainments ..... Mrs. A. H. Ungerman

House of Delegates

OFFICERS OF THE OKLAHOMA STATE MEDICAL ASSOCIATION

RALPH H. McGILL, M.D.
Tulsa
President

LEWIS J. MOORMAN, M.D.
Oklahoma City
Secretary-Treasurer

A. R. SUGG, M.D.
Ada
Speaker of the House of Delegates

L. CHESTER McHENRY, M.D.
Oklahoma City
President-Elect

HOUSE OF DELEGATES

County	*Delegates*	*Alternates*
Alfalfa	L. R. Kirby, Cherokee	Charles Benson, Cherokee
Atoka-Bryan-Coal		
Beckham		
Blaine		
Caddo		
Canadian		
Carter-Love-Marshall	C. D. Cunningham, Ardmore Floyd L. Bates (Ardmore-Ringling)	Thornton Kell, Ardmore James O. Asher, Ardmore
Cherokee		
Choctaw-McCurtain-Pushmataha	Henry D. Wolfe, Hugo	Fred D. Switzer, Hugo
Cleveland	R. O. Ryan, Norman T. A. Ragan, Norman	Curtis Berry, Norman J. R. Hinshaw, Norman
Comanche-Cotton	Charles Green, Lawton	Roy W. Donaghe, Lawton
Creek		
Custer	McLain Rogers, Clinton	Ellis Lamb, Clinton
East Central Oklahoma		
Garfield-Kingfisher		
Garvin		
Grady	H. H. Macumber, Chickasha	W. W. Davis, Chickasha
Grant		
Greer		
Haskell-LeFlore		
Hughes		
Jackson		
Jefferson		
Kay-Noble		
Kiowa-Washita	J. P. Braun, Hobart James F. McMurry, Sentinel	J. William Finch, Hobart Aubrey E. Stowers, Sentinel
Lincoln		
Logan		
Murray		
Northwestern	Edward A. McGrew, Beaver	Joe L. Duer, Woodward
Okfuskee	A. S. Melton, Okemah	L. J. Spickard, Okemah
Oklahoma	Allen G. Gibbs, Oklahoma City P. K. Graening, Oklahoma City W. E. Strecker, Oklahoma City Chester Seba, Oklahoma City Ralph A. Smith, Oklahoma City Henry G. Bennett, Jr., Oklahoma City Onis G. Hazel, Oklahoma City W. W. Rucks, Jr., Oklahoma City	R. B. Howard, Oklahoma City Bert E. Mulvey, Oklahoma City E. E. Fair, Oklahoma City W. T. McCollum, Oklahoma City W. K. Ishmael, Oklahoma City Everett B. Neff, Oklahoma City M. F. McKinney, Oklahoma City Joe M. Parker, Oklahoma City

County	*Delegates*	*Alternates*
	George H. Kimball, Oklahoma City	Floyd Moorman, Oklahoma City
	Lee K. Emenhiser, Oklahoma City	M. M. Appleton, Oklahoma City
	Edward M. Farris, Oklahoma City	A. M. Brewer, Oklahoma City
	Ellis Moore, Oklahoma City	George Bozalis, Oklahoma City
	Elmer Ridgeway, Jr., Oklahoma City	Vance Bradford, Oklahoma City
	J. R. McLauchlin, Oklahoma City	Turner Bynum, Oklahoma City
	Alvin R. Jackson, Oklahoma City	Grace C. Hassler, Oklahoma City
	S. N. Stone, Oklahoma City	Dick Huff, Oklahoma City
Okmulgee		
Osage		
Ottawa-Craig	Don H. Olson, Vinita	F. M. Adams, Vinita
	J. E. Highland, Miami	M. A. Connell, Picher
Payne-Pawnee		
Pittsburg	T. H. McCarley, McAlester	F. T. Bartheld, McAlester
Pontotoc		
Pottawatomie		
Rogers-Mayes	P. S. Anderson, Claremore	M. E. Gordon, Claremore
	Carl Puckett, Pryor	M. V. Stanley, Pryor
Seminole		
Stephens		
Texas-Cimarron		
Tillman		
Tulsa	W. A. Dean, Tulsa	A. Ray Wiley, Tulsa
	A. B. Carney, Tulsa	Logan A. Spann, Tulsa
	Charles G. Stuard, Tulsa	Maurice J. Searle, Tulsa
	John G. Matt, Tulsa	Herbert S. Orr, Tulsa
	W. D. Hoover, Tulsa	Phillip M. Schreck, Tulsa
	Walter S. Larrabee, Tulsa	Hays R. Yandell, Tulsa
	Robert E. Funk, Tulsa	Earl M. Lusk, Tulsa
	Marshall O. Hart, Tulsa	F. D. Sinclair, Tulsa
	J. S. Chalmers, Tulsa	I. H. Nelson, Tulsa
	Felix R. Park, Tulsa	Thomas J. Hardman, Tulsa
	Berget H. Blocksom, Tulsa	Frank A. Stuart, Tulsa
Washington-Nowata		
Woods		

The House of Delegates will meet Sunday, May 20, at 2:00 P.M. in the Ivory Room of The Mayo. Council will meet Sunday, May 20, at 10:00 A.M. in the Ivory Room. Delegates may register on the Mezzanine of The Mayo beginning at 1:00 P.M.

OKLAHOMA RHEUMATISM SOCIETY
Third Annual Meeting
Sunday, May 20, 1951
Mayo Hotel — Tulsa, Oklahoma

PROGRAM

S. Y. Andelman, M.D., presiding

8:30 A.M. Registration—$2.00 for members, $1.00 for non-members

9:00 A.M. Business Meeting

9:30 A.M. Movie: "Arthritis"

10:00 A.M. Rheumatoid Spondylitis — Pathological Considerations. T. S. Gafford, M.D., Pathology, Muskogee, Oklahoma

10:30 A.M. Hypo- and Hyperparathyroidism. Edward C. Reifenstein, Jr., M.D., Internal Medicine, Director of Research Institute, Oklahoma City, Oklahoma

11:00 A.M. Steroids in Arthritis. Max N. Huffman, Ph.D., Senior Investigator, Research Institute, Biochemistry, Oklahoma City, Oklahoma

11:30 A.M. Bones, Joints, and Nutrition. Lucile S. Blachly, M.D., Internal Medicine, Oklahoma City, Oklahoma

12:15 P.M. Luncheon — Wives and Guests Invited.

1:30 P.M. Orthopedic Aspects of Arthritis. J. L. Richardson, M.D., Orthopedic Surgery, Tulsa, Oklahoma

2:00 P.M. Degenerative Arthritis. W. K. Ishmael, M.D., Internal Medicine, Oklahoma City, Oklahoma

2:30 P.M. Shoulder-Hand Syndrome. Otto Steinbrocker, M.D., Guest Speaker, Associate Clinical Professor of Medicine, New York University Postgraduate Medical School; Attending Physician, Bellevue Hospital; Chief of Arthritis Clinic, Hospital for Joint Diseases and Lenox Hill Hospital.

3:30 P.M. Roundtable Discussion on Rheumatoid Arthritis. Moderator: Otto Steinbrocker, M.D.; Participants: S. Y. Andelman, M.D., E. Goldfain, M.D., Port Johnson, M.D.

ANNUAL AUDIT REPORT

Ralph A. McGill, M.D., President
Oklahoma State Medical Association
1227 Classen Street
Oklahoma City, Oklahoma

January 15, 1951

Dear Sir:

We have completed an audit of the financial records of the —
Membership, Journal, Annual Meeting and History of Medicine accounts of

THE OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

for the period January 1, 1950 to December 31, 1950 and submit herewith the following exhibits:

EXHIBIT "A"—Balance Sheet
EXHIBIT "B"—Income & Expense Statement
Schedule 1 —Schedule of Disbursements
EXHIBIT "C"—Bank Reconciliation

We wish to thank you for this audit.
Please call on us at any time for additional service.

Respectfully submitted,
H. E. COLE COMPANY
By H. J. Cole

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

EXHIBIT "A"

MEMBERSHIP AND JOURNAL ACCOUNTS
BALANCE SHEET
December 31, 1950

ASSETS

	Total	Membership	Journal	Annual Meeting	History of Medicine	Inactive "State Fair"
CURRENT ASSETS						
Bank	$32,407.02	31,528.72	491.48	124.95	200.00	61.87
Petty Cash	6.60	6.60	None	None	None	None
TOTAL CURRENT ASSETS	$32,413.62	31,535.32	491.48	124.95	200.00	61.87
FIXED ASSETS						
Furniture & Fixtures	5,070.37	5,070.37	None	None	None	None
Less depreciation for reserve	(507.04)	(507.04)				
INVESTMENTS						
U. S. Government Bonds	12,398.88	12,398.88	None	None	None	None
TOTAL ASSETS	$49,375.83	48,497.53	491.48	124.95	200.00	61.87

LIABILITIES

CURRENT LIABILITIES						
Accrued Withholding Tax	$ 339.67	212.82	126.85			
Accrued Social Security	31.86	29.37	2.49			
TOTAL CURRENT LIABILITIES	$ 371.53	242.19	129.34	None	None	None
OPERATING RESERVE	$49,004.30	48,255.34	362.14	124.95	200.00	61.87
TOTAL LIABILITIES & NET WORTH	$49,375.83	48,497.53	491.48	124.95	200.00	61.87

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

EXHIBIT "B"

INCOME & EXPENSE STATEMENT
January 1, 1950 — December 31, 1950

	Total	Membership	Journal	Annual Meeting	History of Medicine	Inactive "State Fair"
Cash balance — January 1, 1950	$17,392.61	15,262.77	2,067.97	None	None	61.87
Petty cash	6.79	6.79	None	None	None	None
Accounts Payable	(7.42)	(7.42)	None	None	None	None
	17,391.98	15,262.14	2,067.97	None	None	61.87
REVENUE						
Donations	200.00				200.00	
Ads	4,248.66		4,248.66			
Annual Meeting	6,936.00	2,345.00		4,591.00		
Commission on collection of AMA dues	54.50	54.50				
Directory	1,358.30	1,358.30				
Dues	60,096.50	60,096.50				
Interest on Government Bonds	235.00	235.00				
Journal Ad	8,690.56		8,690.56			

Membership Fund	10,025.00		6,000.00	4,025.00		
Rent — Southwestern Surgical Congress	100.00	100.00				
Subscriptions	12.00	12.00				
	109,348.50	79,463.44	21,007.19	8,616.00	200.00	None
DISBURSEMENTS (Schedule)	77,057.91	48,008.59	20,558.27	8,491.05		
Less Accruals	371.53	242.19	129.34			
Plus Withholding and Social Security	248.50	161.72	86.78			
	76,934.88	47,928.12	20,515.71	8,491.05	None	None
REVENUE OVER DISBURSEMENTS	$32,413.62	31,535.32	491.48	124.95	200.00	61.87
CASH RECONCILIATION						
Bank Balance	32,407.02	31,528.72	491.48	124.95	200.00	61.87
Petty Cash	6.60	6.60	None	None	None	None
	$32,413.62	31,535.32	491.48	124.95	200.00	61.87

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

EXHIBIT "B"
Schedule 1

SCHEDULE OF DISBURSEMENTS
January 1, 1950 — December 31, 1950

EXPENSE:	Total	Membership	Journal	Annual Meeting
Annual Meeting Fund	$ 4,025.00	4,025.00		
American Medical Association	248.65	213.65	35.00	
Auditing and Legal	300.00	300.00		
Directory	1,591.17	1,591.17		
Dues and Associations	88.00	85.00	3.00	
Group Hospital Service	239.10	239.10		
Insurance — Property	128.92	128.92		
Journal Fund	6,000.00	6,000.00		
Journal Engraving	507.46		507.46	
Journal Printing	10,536.37		10,536.37	
Journal Binding	30.00		30.00	
Meeting expense	258.17	258.17		
Auditorium	548.00			548.00
Badges	354.48			354.48
Council Room	10.00			10.00
Electrician	48.00			48.00
Entertainment	215.00			215.00
Equipment expense	100.00			100.00
Flowers, etc.	75.35			75.35
Guards	93.50			93.50
Guest Speaker expense	1,053.52			1,053.52
Hotel — Dinner Dance	2,032.88			2,032.88
Luncheon	649.00			649.00
Organ Rental	25.00			25.00
Photographic Display	15.30			15.30
Programs	769.02			769.02
Scientific Exhibits	1,616.00			1,616.00
Signs and Cards	71.91			71.91
Sound Operator and expense	46.00			46.00
Telephone expense	32.07			32.07
Television	675.00			675.00
Gavel, Tickets and Gifts	58.52			58.52
Meeting — Blue Cross and Meeting — Rural Health (included in Membership expense)				
Office Supplies and Expense	3,107.40	3,104.90		2.50
Postage	1,493.70	1,493.70		
Rent	2,810.00	2,810.00		
Repairs	497.60	497.60		
Salaries:				
Executive Secretary	8,900.04	8,900.04		
Associate Secretary	5,445.00		5,445.00	
Editor	1,200.00		1,200.00	
Office	9,389.65	7,118.65	2,271.00	
Press Clipping Service	189.64		189.64	
Photographs	60.90	5.00	55.90	
Post Graduate Committee	2,000.00	2,000.00		
Publicity Account	24.30		24.30	
Refund of Dues	207.75	207.75		
Rosters	168.91	168.91		
Stationery and Printing	88.97	88.97		
Tax — Social Security	217.16	136.35	80.81	
Tax — Unemployment — Federal	55.84	55.84		
Tax — Unemployment — State	437.60	264.31	173.29	
Tax— Property	16.42	16.42		

Telephone and Telegraph	885.13	885.13		
Travel and Expense	5,631.73	5,631.73		
SUNDRY EXPENSE				
Addressograph Plates	17.57	17.57		
A.M.A. Directory	20.00	20.00		
Certificates, Charters & Frames	112.82	109.32	3.50	
Conference of Presidents	25.00	25.00		
Flowers and Ministerial offering	69.14	69.14		
Guest Tickets, Congressional Dinner—Washington, D.C.	16.00	16.00		
Grievance Committee	1.93	1.93		
Investigation expense	521.55	521.55		
Medical Journal	10.50	7.50	3.00	
Moving expense	125.42	125.42		
Reprints of Constitution & By Laws	35.29	35.29		
25—50 year pins and expense	160.76	160.76		
Safety Deposit Box Rental	6.00	6.00		
	76,391.11	47,341.79	20,558.27	8,491.05
Office Equipment	666.80	666.80	None	None
TOTAL DISBURSEMENTS	$77,057.91	48,008.59	20,558.27	8,491.05

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

EXHIBIT "C"

BANK RECONCILIATION
December 31, 1950

MEMBERSHIP FUND
The Liberty National Bank & Trust Co., Oklahoma City
Bank Statement Balance December 31, 1950 ..... $32,894.54
Less Outstanding Checks —

Voucher #	3489	$ 23.87
	3578	36.00
	3727	5.00
	3856	127.31
	3872	16.42
	3884	450.00
	3885	638.47
	3893	25.00
	3895	43.75
		1,365.82

Book Balance December 31, 1950 ..... $31,528.72

JOURNAL FUND
The Liberty National Bank & Trust Co., Oklahoma City
Bank Statement Balance December 31, 1950 ..... 581.58
Less Outstanding Checks —
Voucher # 3891 90.10
Book Balance December 31, 1950 ..... $ 491.48

ANNUAL MEETING FUND
The Liberty National Bank & Trust Company, Oklahoma City
Bank Statement Balance December 31, 1950 ..... $ 124.95
Book Balance December 31, 1950 ..... $ 124.95

HISTORY OF MEDICINE FUND
The Liberty National Bank & Trust Co., Oklahoma City
Bank Statement Balance December 31, 1950 ..... $ 200.00
Book Balance December 31, 1950 ..... $ 200.00

STATE FAIR FUND
The Liberty National Bank, & Trust Co., Oklahoma City
Bank Statement Balance December 31, 1950 ..... $ 61.87
Book Balance December 31, 1950 ..... $ 61.87

Ralph A. McGill, M.D., President
Oklahoma State Medical Association
1227 Classen Street,
Oklahoma City, Oklahoma

January 15, 1951

Dear Sir:

We have completed examination of the books and records of —

THE PUBLICITY ACCOUNT
of the
OKLAHOMA STATE MEDICAL ASSOCIATION

for the period Janunry 1, 1950 to December 31, 1950, and submit herewith the following exhibits:

EXHIBIT "A" — Balance Sheet
EXHIBIT "B" — Statement of Cash Receipts and Disbursements
EXHIBIT "C" — Operating Statement

We wish to thank you for this audit and the courtesies extended.
Please call on us at any time for additional service.

Respectfully submitted,
H. E. COLE COMPANY
By H. J. Cole

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

EXHIBIT "A"

PUBLICITY ACCOUNT
BALANCE SHEET
December 31, 1950
ASSETS

CURRENT ASSETS		
Cash in Bank		$ 9,856.62
FIXED ASSETS		
Furniture & Fixtures	$ 1,029.54	
Less Reserve for Depreciation	90.64	938.90
TOTAL ASSETS		$10,795.52
LIABILITIES		
CURRENT LIABILITIES		
Accrued Social Security		$ 3.30
Operating Reserve		10,792.22
TOTAL LIABILITIES & CAPITAL		$10,795.52

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

EXHIBIT "B"

PUBLICITY ACCOUNT
STATEMENT OF CASH RECEIPTS & DISBURSEMENTS
January 1, 1950 to December 31, 1950

Cash balance — January 1, 1950		$21,559.01
Revenue		304.04
		21,863.05
Total Disbursements (schedule)	$11,942.38	
Less Accruals	3.30	
Plus Withholding Tax and Social Security paid	67.35	12,006.43
Cash balance December 31, 1950		$ 9,856.62
Bank Statement balance December 31, 1950		$ 9,856.62

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

EXHIBIT "C"

PUBLICITY ACCOUNT
INCOME AND EXPENSE STATEMENT
January 1, 1950 — December 31, 1950

REVENUE		
"Medicine of the Year"		$ 97.50
"The Road Ahead"		48.00
A.M.A. Travel expense		88.94
State Dental Association (McPherrin Meeting)		23.75
Postage Reimbursement		45.85
TOTAL RECEIPTS		$ 304.04
DISBURSEMENTS		
"Medicine of the Year"	$ 97.50	
"The Road Ahead"	48.00	
"Sooner Medic"	75.00	
Fulton Lewis broadcast	227.50	
Stationery & Supplies	147.76	
Telephone and Telegraph	1,452.99	
Postage	316.40	
Salary	2,861.56	
Public Speaking	24.00	
Newspaper	535.87	
Professional Relations	182.64	
Radio	942.00	
Awards	755.93	
Visual Education	1,130.29	
Newsletter	954.43	
Express & Delivery	39.55	
Meetings & Dinners	971.41	
Hospital Insurance	19.80	
Travel	692.66	
Social Security	42.62	
Entertainment	143.00	
State Unemployment Tax	56.47	
The Gotcho Record	225.00	11,942.38
DISBURSEMENTS OVER INCOME		($11,638.34)

Not only enough bulk ...but plenty of water

...with METAMUCIL®

To assure the patient of the necessary quantity of liquid and natural mucilloid expedient to the promotion of peristaltic movement, Metamucil is to be taken with a full glass of cool liquid and may be followed by another glass of liquid if indicated.

Metamucil, mixed with water, produces:

- . . . . a bland mass which is intimately miscible with the intestinal contents and is extended evenly throughout the digestive tract
- . . . . gentle stimulation of the bowel wall, initiating normal reflex peristalsis
- . . . . medium stools—not hard, not soft
- . . . . no irritation, straining, impaction and
- . . . . no interference with digestion or absorption of oil-soluble vitamins.

METAMUCIL® is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. G. D. Searle & Co., Chicago 80, Illinois.

SEARLE

RESEARCH IN THE SERVICE OF MEDICINE

THE JOURNAL
of the
OKLAHOMA STATE MEDICAL ASSOCIATION

EDITORIALS

ECHOES ON BRITISH MEDICINE

As previously reported in this column, a careful scrutiny of "Leading Articles", "Medical Notes in Parliament" and "Correspondence" in the columns of the *British Medical Journal* and the echoes from various non-official sources indicate growing pains in the yet youthful National Health Service.

In the March 3 issue of the *British Medical Journal* there is a full page "Leading Article" entitled Paying for the N.H.S., the annual cost estimated at 400,000,000 pounds. Apparently all speculations end in frustration. The question of failure weighs heavily upon the profession. "If it turns out to be a costly failure, then the reputation of this country will suffer a severe setback in the eyes of all those other countries which are watching very closely the outcome of this gigantic experiment; and it cannot be denied that some countries would not be displeased to see the N.H.S. come to a sticky end."[1]

In a recent issue of *Intelligence Digest*, published in Great Britain, there is a pathetic inside story under the title, "A British Surgeon Looks at Socialized Medicine". Only a few lines suffice: "This subject is of great interest to all Americans, because there are powerful forces seeking to introduce the British experiment into the United States. It is of interest to people in Britian, because they want to know exactly what the doctors now think of the plan. These brief notes have been prepared by an eminent surgeon, aged 50, who holds one of the senior appointments of the whole British Commonwealth. He has been on the staff of no fewer than ten London hospitals." . . . "The doctors are now overwhelmed by people who have suddenly become conscious of every ache and pain. The consequent pressure is so great that much serious illness is overlooked by default. Moreover, the doctors are afraid that, before many years have passed, Britain may be a nation of hypochondriacs.

"Another symptom which is worrying the doctors is the absolute abandonment, in one sweeping gesture, of all family responsibility and sense of sacrifice one for another when illness comes. The State provides from conception to the grave, both inclusive. No longer need the young and healthy make the slightest effort to save or provide for the sick and aged at some personal sacrifice. The new order in medicine fits pretty well into the 'couldn't care less' philosophy. Unhappily, it has also spread to the doctors." . . . "The general practitioner is now inclined to think only about getting the maximum number of 'units' in his practice—an outlook which goes far to undermine the old doctor-patient relationship so vital to this great profession." and finally,

. . . "The doctors do not know what Government edict to expect next. One follows upon another. And the doctors are at the mercy of civil servants. It is now feared that it may soon be illegal for a doctor to write to the Medical Press without permission; while to embark on research work is already only permitted after approval of an official Committee. Resignation from a hospital may mean ruin if the officials choose to use their powers. The average of illness in Britain is today no higher than it was ten years ago—or five years ago—yet the doctors are worn out, the hospitals are overwhelmed, serious cases are at the ends of long waiting lists, and the whole plan has cost a vast sum of money. Above all, a great profession has been gravely discouraged. The British doctors say to America: 'Don't follow on this dangerous path'; and to the British Government: 'Undo what part of the damage you can, before worse happens, and this great profession is reduced to a rubber stamp security job for the mediocre boy who hasn't a scrap of individuality or ambition."

Lady Astor, a Christian Scientist but a keen observer who wants good doctors when she must have them for her people at Cliveden recently, while visiting Lynchburg, Virginia, was asked about socialized medicine. She said, "I believe something has to be done, but not what has been done in England . . . The present plan in England is 'wasteful,' 'extravagant,' and 'stupid'," and she declared that she had never found a first-rate doctor who approved of it.

1. *British Medical Journal.* March 3, 1951, page 462.

WHY NOT SAY SO

It is obvious that the great majority of the American people, including the physicians, follow the Patrick Henry pattern but they do not stand up in church and say so.

It is time for an expression of principle, a declaration of purpose and a militant drive against the forces that destroy our freedom.

Every American citizen's freedom is now being threatened by the socialistically minded administrations of two Washington bureaus. Since ostensibly these bureaus represent security, their names are being debased.

A REMINDER

In Tulsa May 20 to 23, inclusive, the Oklahoma State Medical Association will be in session at The Mayo Hotel. In the February *Journal* this meeting was discussed editorially. Stories and news about the meeting have appeared in every succeeding issue of the *Journal.* These comments, stories and announcements have been characterized by unusual enthusiasm because of the high character of the out of state and local participants. Here the general practitioner will find a liberal medical education packed into three days. There are treats for the specialists as well. Specialists who aspire to the best should know what the general practitioner knows — plus.

Take time out and partake of the knowledge and skills of those converging on Tulsa for this meeting so near at hand.

CAMP SWEENEY AGAIN

About a year ago it was the pleasure of the editorial board to call attention to Camp Sweeney, a summer camp for diabetic boys and girls of the Southwest at Gainesville, Texas. The first season for the camp reaffirmed the successful experience with such programs in the East. The editorial board now feels that it is its duty to advise all those who have the responsibility of diabetic children to write to Camp Sweeney for information. It is not entirely fitting that we should extol the virtues of any particular organization, but it is in keeping with the spirit of our job that we point out some of the advantages of group training and group participation in the joys of living. To be set aside as different and perhaps odd is a tough emotional hurdle for any child. Once a year for a month to live in a place where diabetes is normal must give a tremendous lift. To be and to live with other people who have the same problems is of inestimable educational value both to the child and to the parents. This applies to all long lasting disorders. Finally, while a vacation with equals for the child is the object, the parents are being spelled for a while and this rest from each other accrues as renewed interest for both when the daily chores begin again.

PROGRESS

NEW DEAL — FAIR DEAL — FUR DEAL

Nobody knows what goes on in Washington but now it seems reasonable to presume that the Administration is preparing for a long cold spell. In support of this, many are of the opinion that a storm is brewing at the grass roots which will sweep through political precincts with such a blasting frigidity that it will make fur fly and rattle the bones of the hardest bureaucrat in Washington. Only when this happens may we hope for bonafide federal and social security and a wholesome regard for sound medical care instead of incessant propaganda for control of free enterprise and the accompanying power it connotes.

Let all who believe in earnest supplication pray that Boreas may be loosed and that "the snow hurled under Arcturus" may sweep the mink mongers and gravy venders from high places where the taxpayer's money is burned on the altar of power and greed.

HAVE YOU MADE

YOUR RESERVATIONS

FOR THE

A. M. A.?

June 11-15, 1951

Atlantic City, New Jersey

SCIENTIFIC ARTICLES

CONSERVATIVE SURGERY OF HYDRONEPHROSIS CRITICAL ANALYSIS OF RESULTS OBTAINED BY VARIOUS PROCEDURES*

VINCENT J. O'CONOR, M.D.

CHICAGO, ILLINOIS

This report is primarily concerned with the recording of a personal experience, during the years 1920 through 1948, in the application of "conservative" surgery for hydronephrosis due to obstruction at the uretero pelvic junction. These procedures had as their objective the restoration or improvement of urinary outflow from the renal pelvis so that kidney function might be maintained or improved. No cases of hydronephrosis, apparently due to obstruction from stone, intrinsic tumor or extra-urinary neo-plasm, are considered in this study.

During this period of time we have treated a number of patients by progressive dilatation of the upper ureter through cystoscopic means. These patients, except where they ultimately came to surgery, are not considered.

We have operated upon a number of patients where nephrolysis, pelviolysis and ureterolysis, together with nephropexy, restored normal drainage and therefore satisfied the criterion of successful conservative surgery. This report, however, does not include this group of patients.

Fig. 1. There were 98 plastic procedures performed upon 88 patients during the period September, 1920, to January, 1949. The object of the operation in each instance was the permanent improvement of renal pelvis drainage which had previously been impaired by some sort of obstructive process other than stone or tumor. Ten patients in this group had a bilateral condition necessitating conservation of both kidneys. In four patients pyeloplasty was successfully performed upon a congenital solitary hydronephrotic kidney. In 16 of the 88 patients, the opposite kidney was a relatively functionless hydronephrosis and was removed after a successful pyeloplasty had been demonstrated on the well functioning kidney. In only nine of the kidneys conserved were one or more stones removed from the hydro-nephrotic pelvis and these were apparently secondary to the urostasis and did not constitute a primary obstructive factor.

Various Pyeloplastic Techniques:

1. *End-to-side anastomosis of ureter to renal pelvis.* In this procedure the ureter is divided and re-implanted in the wall of the renal pelvis in a position away from any previously obstructing blood vessels or constricting bands. The method originally described by Kuster provided for re-anastomosis of the cuff of the ureter but has recently been improved by "spatulating" the upper end of the ureter as suggested by Nesbit.

2. *The principle of transverse suture of a longitudinal incision in the simple manner.* Feneger's use of the Heineke-Mikulicz principle. Despite the fact that this technique has been discarded as unsatisfactory by most American surgeons, some of our early cases were entirely relieved by this procedure. Experimental work in animals, not entirely a comparative study, shows that a flap of pelvic mucosa on the posterior aspect of the ureteropelvic junction frequently acts as a new obstructing factor after this operative procedure.

3. *Application of the pyloroplastic technique of Finney as a pelvio-ureteroplasty.* Variations of this technique have been proposed by Young and others. This technique is actually an incomplete procedure in most instances and the more recent techniques have enlarged upon the original idea.

4. *Application of the Ramstedt pyloric operation to the constricted area at the ureteropelvic junction.* Longitudinal incision, single or multiple, of part or all of the ureteral wall, with subsequent splinting during the healing process.

An elaboration of this principle is the *Intubated Ureterotomy* for extensive ureteral narrowing as described by Davis.

5. *The principle of the Y plasty,* originally described by Durante for relief of pyloric stenosis and applied to pelvio-ureteroplasty

*Presented before the Section on Surgery at the Annual Meeting of the Oklahoma State Medical Association June 6, 1950.

first by Schwyzer and later improved and popularized by Foley.

Foley deserves great credit for his ingenious modification of older techniques and his work has been a great stimulus to me, and I am sure to all who have been called upon to do this type of surgery.

There are several points of technique upon which various surgeons differ both in written and spoken discussions on this subject. The most important of these might be summarized as follows:

1. The advisability of plication in large extrarenal pelves.
2. The value of excising large areas of redundant pelves in extrarenal hydronephroses.
3. Disagreement on the advisability of splinting the area of repair during the healing period.
4. Whether postoperative renal drainage should be by pyelostomy or nephrostomy or by both routes.
5. The freedom with which adjacent aberrant arteries or veins may be safely divided and ligated.
6. The advantages in many instances of suspending and fixing the kidney after the pyeloplasty has been completed.

The follow-up study for our report entailed a prolonged and difficult task and embraced a period of 29 years. All patients were accounted for on a symptom basis for one year or more, many have been followed ever since operation. Since practically all of these patients are in adolescent or at most, early middle life when operated upon they constitute, as a group, an easier follow-up problem than most postoperatives. Of the 88 patients studied, 62 have had single or repeated urographic postoperative studies.

Procedure Employed	*Number of Operations*
Division of ureter with re-implantation in pelvis	14
Transverse suture of longitudinal incision	3
Finney type of pelvioplasty	2
Anterior Y plasty	30
Posterior Y plasty	48
Intubated ureterostomy	1
Some sort of nephropexy or fixation of kidney	62

Mortality. Two patients died following plastic procedures. Both had infected hydronephroses and were operated upon in 1926 and in 1929 before the advent of our modern antibiotics. Nevertheless, both of these deaths seem inexcusable in the light of added experience. One boy of 19 years, in otherwise perfect health, died from pneumonia and septicemia on the seventh postoperative day after an operation of the Finney type. In my opinion, this tragic result was due to inadequate handling of the renal infection by pyelostomy drainage.

The second patient died of pulmonary embolism on the 16th postoperative day and autopsy revealed an embolus occupying the inferior vena cava throughout its entire length. This patient had undergone considerable manipulative ureteral treatment before seeing us and I am convinced that I should have recognized the fact that nephrectomy and not pyeloplasty was indicated at the time of operation.

Secondary Nephrectomy—5

Number of Patients

1 *After division of lower polar vessels and posterior Y plasty*: Forty-eight hours postoperative. Renal infarction and cortical infection.

3 Continued lumbar pain, recurrent pyelonephritis and pyelographic evidence of failing renal function
1. Anterior Y plasty two years postoperative.
2. Finney technique 34 months postpyeloplasty.
3. Kuster technique nine years postoperative.

1 Continued infection with multiple stone formation: eight years after posterior Y plasty.

Stone Formation after Pyeloplasty. In addition to the patient above mentioned, where nephrectomy was performed eight years after plastic operation because of multiple stones and infection, there were four instances of single stone formation postoperatively.

1 removed surgically two years postpyeloplasty
1 removed surgically three years and eight months post-pyeloplasty
2 passed spontaneously, one 18 months postpyeloplasty and one four years postpyeloplasty.

All of these kidneys continued to function satisfactorily after removal of the stones and no recurrence has been noted.

There are two instances of multiple stone formation in one kidney where bilateral pyeloplasty was performed. One of these patients who had an excellent result on the left kidney has worn a nephrostomy tube in the right kidney since 1938. Attempts to remove this kidney were unsuccessful.

Periodic Ureteral Dilatation was necessary

to relieve recurrent lumbar pain in three patients. In each instance the kidney function has been well maintained.

In reviewing the over-all follow-up of these 88 patients, it would seem fair to conclude that complications resulted in 16 patients and in seven of these the original operation could be classified as a complete failure. Naturally, one develops definite personal opinions from such an experience. These may be at variance with others who have had an equal experience with equally satisfactory results.

The Y plasty, either anterior or posterior, has proved to be the operation of choice except in those patients where the presence of anomalous or aberrant vessels, or a too narrow ureteral lumen at the outlet, made these procedures obviously impossible. In this group, division of the ureter with re-implantation in the pelvis, either by cuff anastomosis or with spatulation of the upper end of the ureter, is the most satisfactory procedure. In some cases, rotation and fixation of the kidney in such a position as to prevent a subsequent obstruction after pyeloplasty, is a most important part of the corrective surgery. In our hands, splinting of the ureter and nephrostomy drainage are the technical procedures of choice. There are occasional instances where it may be wise to omit the splint.

CONCLUSIONS

From this study we believe it is apparent that plastic operations on the renal pelvis may be expected to relieve the obstruction causing hydronephrosis in approximately 90 per cent of properly selected cases. Persistent infection and stone formation are the most troublesome sequelae. Modern antibiotics should continue to lessen these complications. The surgeon who is to remove these obstructions at the ureteropelvic junction should apply the operative procedure which will best fit the individual problem. Unfortunately, even those who have contributed most to our knowledge of this subject, have more often emphasized adehrence to a particular technique rather than the measured choice of the various methods. In our series, there was a "tendency" to bilateral pelvic dilatation in almost 50 per cent of the patients. Ten were massively bilateral and in 16 the useless kidney was removed after satisfactory corrective surgery had been demonstrated on the functioning kidney. Four patients with marked hydronephrosis in a congenital solitary kidney were successfully relieved.

A study of the pre-and postoperative pyelograms demonstrates that shrinkage of the large pelvis occurs in most instances if satisfactory drainage is established. All of these observations emphasize the importance of adopting conservative surgery whenever possible.

ATTENTION MEDICAL ASSISTANTS ! ! !

Program for your Annual Meeting at the Alvin Hotel, Tulsa, Oklahoma, appears in this issue, page XVIII. Plan to attend your meeting, May 19 and 20, immediately preceding your doctor's Annual Meeting, May 21, 22, 23.

NEPHROLITHIASIS CAUSED BY ABNORMALITIES OF CALCIUM AND URIC ACID METABOLISM*

VINCENT VERMOOTEN, M.D.
DALLAS, TEXAS

The problem of the formation of renal calculi still seems a very complicated and complex one. Much work on this problem is still being done in the hope that eventually the correlation of the available data may give us some concrete information.

Urinary lithiasis is essentially a condition in which the concentration of certain urinary constituents will exceed their solubility, resulting in their precipitation. This will occur in metabolic disorders in which constituents, normally present only in small amounts such as uric acid (in gout), cystine (congenital cystinuria), xanthine (xanthomatous diseases), or in the excessive excretion of calcium carbonate and phosphate which gives rise to inorganic stones.

In 1909 McCallum and Voegtlin[11] drew attention to the influence of the parathyroids on calcium metabolism, but it was not until 1934 that Albright[1] and his co-workers, following the work of Barr, Bulger, and Dixon[3] (1929), emphasized the obvious association of renal calculi and parathyroid adenomata. In 1923 Keyser[9], following the work of Ebstein and Nicolaier[5], reported his experimental findings on "hyper-excretory calculosis". By feeding an excessive amount of oxamide he was able to produce oxamide calculi. By similar methods he was also able to cause the formation of other renal calculi.

In 1933 Gough and Duguid and Davies[8] showed that large amount of calciferol (a vitamin D preparation) caused high blood calcium levels, and that as a result, calcium phosphate was precipitated in the tubules and interstitial tissue of the kidneys.

More recently Flocks[6] has observed that the great majority of patients who have renal calculi excrete considerably more calcium in their urine than do normal people. The average individual excretes 100-150 mg. of calcium in the urine each 24 hours when on a low calcium diet, and from 200 to 300 mg. on a high calcium diet. Whereas, in a 24 hour period, 21 out of 23 patients with calculi excreted more than 200 mg. of calcium in the urine while on a low calcium diet. On the other hand, 23 out of 35 patients with stones when on a high calcium diet excreted as much as 420 to 600 mg. Of this group, only two had hyperparathyroidism. He also pointed out another very interesting fact: urine obtained from a kidney with stasis contained a much higher concentration of calcium than that from the opposite kidney in which there was no stasis.

The highly concentrated urine resulting from dehydration also naturally contains a greater concentration of calcium salts, for calcium salts are excreted quantitatively.

All these facts and others must be borne in mind in any discussion regarding the formation of renal calculi, and are of particular importance in relation to abnormailties of uric acid and calcium metabolism.

Uric acid calculi are occasionally, but surprisingly infrequently, seen as a complication of gout. The diagnosis is, as a rule, easily made, for the patients have a high blood uric acid level, almost invariably have uric acid crystals in the urine, and the pH of the urine is very obviously acid and may be as low as a pH of 4. On radiographic examination of these people, the calculi are, as a rule, not seen for several reasons. The chief is that although calcium urate stones are frequently radiopaque, uric acid calculi are translucent to x-rays. As a rule, they are small, hard and rounded, and is chiefly due to their small size that they are not visualized. An excretory urogram may, however, show impaired or absent function of the involved side after an organic iodide has been given intravenously.

More important than this is the fact that uric acid and calcium urate calculi, particularly massive collections of uric acid crystals (uric acid infarcts), are frequently found in the kidneys of newborn or in those of premature infants. On routine autopsies of infants born at or near term, it is common to find the kidney pelvis full of uric crystals and the collecting tubules are, at times, packed with similar deposits. (Fig. 1) This is readily understandable if we take into consideration that uric acid is an end product of purine metabolism. Uric acid as such is excreted in the urine in which it is from 10 to 20 times more soluble than in water. However, with the massive breakdown of nucleoproteins, far more is excreted than can be taken care of by the kidneys, especially if reabsorption in the tubules deposits out uric

*Presented at a meeting of the Tulsa County Medical Society, March 27, 1950.

Fig. I. Photograph of a fetal kidney showing deposit of uric acid crystals in the collecting tubules of each papilla.
Fig. II. Excretory urogram showing a diffuse mottling in the region of the collecting tubules of the renal papillae. This is due to "puddling" of the intravenous iodide in the collecting tubules indicating their dilatation. There are no calculi in the tubules.

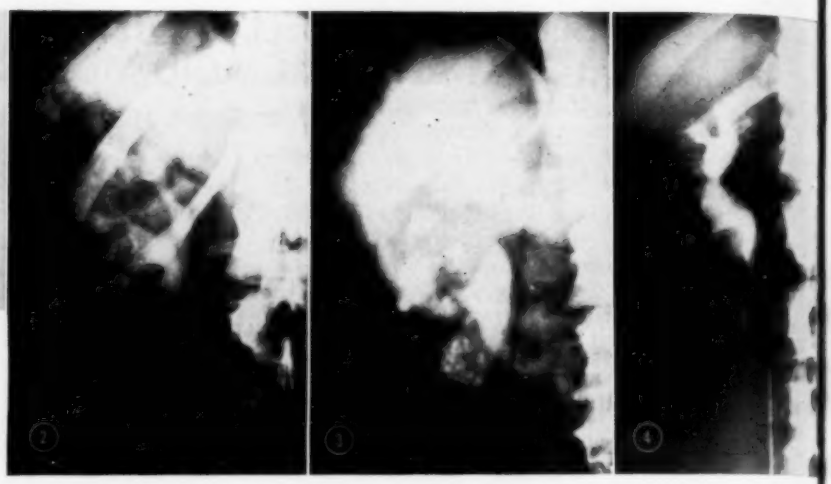


Fig. III. Excretory urogram showing "pooling" and "puddling" of the opaque iodide in the collecting tubules. This patient also has a few small calculi in some of the collecting tubules.
Fig. IV. This retrograde pyelogram shows multiple calculi in the collecting tubules of all of the renal papillae. The collecting tubules are all dilated. Note: This patient had no evidence either clinically or at autopsy of hyperparathyroidism.

acid crystals. This, of coures, depends on when the fetal kidney begins to function as an excretory organ.

The actual time at which human kidneys begin to function normally has not been accurately determined. However, I[12] have shown that the kidney of the 96-hour chick embryo is a functioning organ. The fact that this fetal kidney does function has been substantiated by the experimental work done on rats by Brown[4], who showed that on the 17th day of embryonic life most of the rat embryos had hydronephroses, whereas, by the 21st day these had, as a rule, disappeared, indicating that kidney function must have been established on or about the 17th day, and that sufficient pressure from the excretion of urine had caused rupture of "Chwalla's membrane"[13] before the 21st day.

The formation of uric acid and calcium urate calculi, therefore, must be considered merely as the normal process of elimination of uric acid in an individual who, as the result of a disturbance of his purin metabolism, excretes uric acid in such quantities that a true "hyper-excretory calculosis" has occurred. Uric acid crystals and sometimes uric acid stones may, therefore, also be expected in any disease in which there is a very considerable and rapid breaking down of nucleo-proteins. Diseases of this type are naturally the leukemias, pneumonias, multiple myelomata, and other like diseases.[2]

Disturbances of calcium metabolism and their relation to the formation of kidney stones are still very poorly understood, except for the one basic fundamental fact that a hypercalcemia is, as a rule, associated with a hypercalcinuria.

The few facts that have been established are that there are certain conditions which are known to cause an increase in the excretion of calcium salts in the urine, primarily as calcium phosphate.

Among these, has been mentioned, is hypercalcemia due to Hypervitaminosis D. In their experimental work on this subject, Gough et al. found that a high phosphate diet given in conjunction with excessive doses of certain vitamin D preparations is particularly conducive to renal calcifications, and that the degree of renal calcification paralleled the amount of renal excretion of calcium. Milk contains not only a large amount of calcium, but much phosphate. Beer does not.

Acidosis causes an excessive excretion of calcium in the urine, and it has been shown clinically and confirmed experimentally that pyloric stenosis not only causes an excessive excretion of calcium in the urine, but that calcium is even deposited in the kidneys as a result of the metabolic changes secondary to the persistent loss of fluids and electrolytes by vomiting.

Dehydration alone will naturally cause a much greater concentration of calcium salts in the urine than normal.

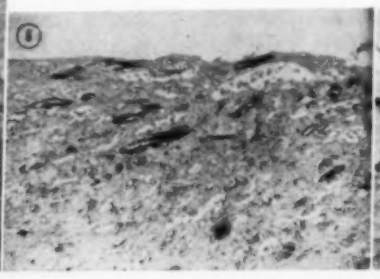
Flocks has shown that many individuals normally excrete a considerably greater amount of calcium salts in their urine as compared to the feces than do the average.

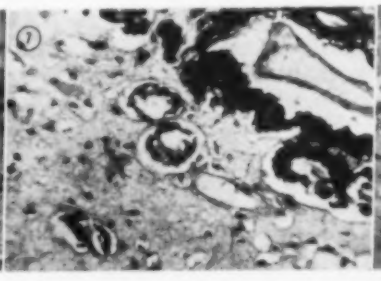
It has now been well established that hyperparathyroidism may cause not only the excessive excretion of calcium salts in the

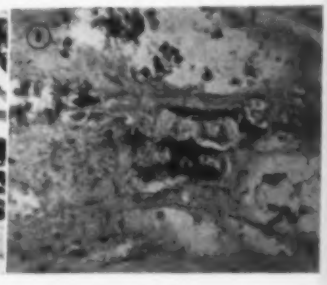
urine, but also the deposition of calcium salts in the kidney. Albright and his co-workers have probably done more to emphasize this point than any others. In making a diagnosis of hyperparathyroidism the low serum phosphorus and a high calcium when hyperparathyroidism is present, whereas hyperplasia of the parathyroid is not an uncommon finding in longstanding, severe chronic renal disease associated with albuminuria. The poorly functioning kidney is unable adequately to eliminate phosphates. The serum phosphorus rises, combines with calcium and is excreted by the bowel as calcium phosphate. It is generally assured that this causes a drain on the serum calcium and consequently hyperplasia of the parathyroid which, consequently, excretes more parathyroid hormone, and so mobilizes more calcium in order to maintain a normal serum calcium level. Ginzler and Jaffe[7] however, believe that the insufficient kidney is unable to form ammonia in sufficient amounts, therefore base (in the form of calcium) is withdrawn from the bones. The rarification of the bones, they feel, is due to acidosis and not to an excess of parathyroid hormone although acidosis, per se, may cause decalcification. Calcification within the renal parenchyma and the occurrence of renal calculi must not, by any means, be considered as evidence of the existence of hyperparathyroidism. Except for Albright's figures which are higher than most other authors, the general consensus is that only about 0.1 per cent to to 0.2 per cent of all renal calculi are associated with hyperparathyroidism. Albright, drawing most of his patients from the relatively "stone free" New England area, should naturally have a much higher incidence than someone from a "stone belt" area such as North Carolina.

Although renal calculi should be expected to form in the presence of a hyper-calcinuria, let us consider the more uncommon form which has become so much associated with parathyroid adenomata that it has been designated by some as "nephrocalcinosis". Strangely enough, in all the patients with this type of stone that I have had the opportunity of studying, I have as yet not found any who had clinical, x-ray or laboratory evidence of increased activity of the parathyroid. Actually this is not surprising when one studies the development and possible etiology of this type of stone. There is a condition to which so little attention has been paid that I do not recall having seen it recorded. I refer to the condition in which the collecting tubules are dilated. Presumbaly there may be some form of stricture or stenosis at the openings of the collecting tubules as they enter the calyx, or as is more likely, they are congenitally dilated. Some years ago I saw a patient because of hematuria. He had no urinary tract infection, clinical studies were normal, but yet he had recurring attacks of gross hematuria on both sides. Excretory urogram revealed a very rare and rather interesting picture which, up to the present, I have not seen described. It gives one the impression that at the end of each calyx one can see a bunch of grapes extending up into the kidney (Fig. 2). On careful examination it is fairly obvious that this is due to irregular dilatation of the collecting tubules. Actually the less advanced stage of this condition is not very rare if one examines excretory urograms very carefully. The collecting tubules will frequently be seen to be full of the opaque medium. Some four years later x-ray examination of this patient showed small stones deposited in these dilated collecting tubules, yet the patient's blood serum calcium and phosphorus determinations are still normal and he has no clinical or x-ray evidence of hyperparathyroidism, yet he is now a typical case of "nephrocalcinosis". A similar condition

Fig. V. Photograph of renal papilla of newborn premature fetus showing massive deposits of uric acid crystals in the collecting tubules.
Fig. VI. Photomicrograph showing calcium deposition surrounding tubules, blood vessels and in interstitial tissue.
Fig. VII. Photomicrograph showing massive calcification in basement membranes of collecting tubules. Note that in several places the epithelium of this tubule is still intact.
Fig. VIII. Photomicrograph of renal papilla showing deposits of calcium in the interstitial tissue and surrounding a capillary.







was seen in an individual who was complaining of symptoms suggestive of benign prostatic enlargement which he unquestionably had. Routine x-ray studies revealed occasional calculi in the collecting tubules of both kidneys. Excretory urogram showed that the collecting tubules in the papillae were dilated and that the opaque iodide which had been given intravenously was sufficiently well concentrated and pooled in the collecting tubules to make them readily visible (Fig. 3). The patient had no evidence that we could find of hyperparathyroidism. A third patient who had a very extensive lesion of this type (Fig. 4) died of carcinoma of the stomach. At autopsy his kidneys showed extensive deposits of small calcium phosphate stones in the collecting tubules of each renal papilla. Some of these calculi had ulcerated through and fallen into the kidney pelvis where they had increased in size and had become true renal calculi. On careful autopsy study this patient's parathyroids were normal. There are so many similar cases with which I have had personal contact with that I feel certain that this type of renal stone formation is entirely an incidental finding in hyperparathyroidism. The underlying lesion of the collecting tubules being the primary disease. Any type of disturbance of calcium metabolism which produces a hypercalcemia, and consequently an excessive urinary excretion of calcium, could and should cause calculi of this type to form, especially in the presence of this lesion and an alkaline urine. This type of calculus should not, therefore, necessarily presuppose the presence of hyperparathyroidism.

When one goes back to our observation in fetal life of the extensive deposition of uric acid in the collecting tubules of the kidneys (Fig. 5), it seems quite reasonable that in certain instances sufficient damage is done in this stage to cause injury to the collecting tubules with subsequent scarring and dilatation. In due course, in favorable circumstances, calculi may be deposited, for as Flocks has shown, where there is urinary obstruction the concentration of calcium salts is greater.

Some time ago I[14] had the opportunity of studying microscopically sections made from about 2000 kidneys obtained from individuals who had been accidentally killed, or died suddenly; in other words, in individuals who, for practical purposes, were apparently healthy. In this study about 20 per cent had calcific plaques on the renal papillae. In making sections through these papillae for microscopic study, each showed calcium deposition, some to a very marked extent, and some to a lesser degree (Fig. 6). The calcium salt, interestingly enough, was laid down in the collagen fibers. Whether these were in the basement membrane of the collecting tubules (Fig. 7), in the interstitial tissue (Fig. 8), or whether they were the spinning fibers surrounding the small blood vessels, the calcium was evident. Routine autopsies were done on all these patients, and in no instance was a parathyroid adenoma found, although of course, no intense search was made to find one. Calcifications seen in these papillae is so much like that which is described as being present in hyperparathyroidism, that one wonders what mechanism is responsible for this microscopic picture.

In studying these sections, one sees that the deposition of calcium in the renal pyramids parallels, step by step, the physiologic process of the formation of bone. One can find some areas of edema in the interstitial tissue. There are other areas in which the pink staining fundamental substance normally associated with the early formation of bone is obviously being laid down; other areas in which the fibrils become apparent, some in which calcium salts are being deposited as fine stippling, and eventually massive areas of calcium can be seen as being laid down. These, according to Leriche and Pollicard[10], are the normal phases of the development of bone. The only difference is that in none of my sections was true bone actually seen, yet we know that the kidney is one organ in which, in the proper circumstances, bone can develop.

These microscopic changes in the kidney are so common and so frequent in the complete absence of any obvious cause for a disturbance of calcium metabolism that this can do no more than to bring to our attention the fact that hyperparathyroidism, hypervitaminosis D, etc., may be merely gross disturbances of processes and changes in calcium metabolism of which we are not aware.

It is not unusual for individuals who have to remain in bed for long periods of time to develop kidney stones due primarily to stasis, relative dehydration, and later infection. This is all the more prevalent in individuals who have had fractures or some other type of bony injury. Some while ago I was called to see a 12 year old boy (with multiple fractures) because he had developed hematuria. It was found that he had had large quantities of sulfanilamide sprinkled

in his wound when an open reduction was done. X-ray of the kidneys was negative. He was put on alkaline therapy and forced fluids. A month later I was asked to see him again because of hematuria. X-ray at that time revealed complete casts of both renal pelves and calices due to stone. It was found that he had been getting large quantities of milk and vitamin D and his alkaline therapy had not been discontinued. This was an ideal situation even without bony injury to cause stone formation. Vitamin D was discontinued, milk was discontinued from his diet, he was put on an acid ash diet, given vitamin A and large quantities of water. Within six weeks his stones had all disintegrated and had been passed. More recently I was asked to see an 18 year old boy who had had a spinal fusion and bone graft six weeks previously. He also had hematuria with pain in his left side. This, on x-ray examination, was found to be due to a staghorn calculus which had developed in his left kidney. He was put on vitamin A, estrogens, aluminum hydroxide and acid ash diet with a minimum intake of 3000 cc of fluids a day. Within a month all his stone had disintegrated and been passed except for one fragment which lodged in the terminal ureter and was readily extracted.

These two cases are readily explained on the basis of the many factors which obviously played a part. 1. The bony injury calls forth a mobilization of calcium for its repair. 2. The high calcium and phosphorus diet (mostly in the form of an excessive amount of milk) causes an excessive excretion of calcium in the urine. 3. The vitamin D mobilizes still more calcium. 4. The restriction of fluids causes more concentration of calcium in the urine. 5. The recumbency and the alkaline ash (anti-constipation) diet cause precipitation of calcium salts from the urine. 6. The immobilization contributes a great deal to stasis.

The problem that presents itself is not why these patients formed renal calculi, but why so many others do not.

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MEET OUR CONTRIBUTORS

Hal A. Burnett, M.D., Oklahoma City, and *A. M. Brixey, Jr., M.D.*, Joliet, Ill., are co-authors of a paper on Hazards of Splenectomy in this issue of the Journal. Doctor Burnett, who is instructor in surgery at the University of Oklahoma School of Medicine, graduated from the University of Oklahoma School of Medicine in 1943. He interned at Indiana University Medical Center and served a residency in general surgery at University Hospitals, Oklahoma City. Released as a captain in the medical corps, he had 30 months service in World War II and was awarded the Purple Heart.

Doctor Brixey, who now practices in Joliet, Ill., served a three year residency at the University of Oklahoma School of Medicine. He was graduated from the University of Oklahoma School of Medicine in 1943 and interned at Santa Barbara County Hospital, California, and St. Anthony Hospital, Oklahoma City. His specialty is internal medicine. A veteran of 30 months service in World War II, he spent 21 months overseas and was a major at the time he was released from service.

Vincent J. O'Conor, M.D., Chicago, guest speaker at the 1950 Annual Meeting, has a paper on "Conservative Surgery of Hydro-Nephrosis — Critical Analysis of Results Obtained by Various Procedures" in the May issue. Doctor O'Conor has been certified by the Board of Urology and graduated from Rush Medical College, Chicago. Among organizations of which he is a member are American Association of Genito-Urinary Surgeons, American Urological Association (North Central Section), International Society of Urologists, Clinical Society of Genito-Urinary Surgeons, and American College of Surgeons.

Vincent Vermooten, M.D., Dallas, was born in Belfast, Union of South Africa, and was graduated from Johns Hopkins University. His article, "Nephrolithiasis Caused by Abnormalities of Calcium and Uric Acid Metabolism" was presented before the Tulsa County Medical Society. He was also a guest speaker at the O.S.M.A. Annual Meeting in 1949. Doctor Vermooten has been certified by the American Board of Urology and is Associate Professor of Urology, Southwestern Medical College, Dallas, and was previously chief of the Genito-Urinary Section, Brooke General Hospital, Fort Sam Houston, Texas. He is a member of the American Urological Association, Association of Military Surgeons and American College of Surgeons. He received his B.A. degree from the University of Cape Town and also received his master's there. Before coming to Dallas, he practiced in Maryland, Connecticut, South Africa, and was in the army three and one-half years.

Philip Thorek, M.D., Chicago, has a paper on "Intestinal Obstruction" appearing in this issue of the Journal. He presented the paper at the 1950 meeting of the Oklahoma Academy of General Practice in Shawnee. Doctor Thorek was graduated from the University of Illinois College of Medicine in 1928 and his specialty is General Surgery. He is a Diplomate of the American Board of Surgery, a Fellow the American College of Surgeons, Fellow, International College of Surgeons, Fellow, American College of Chest Physicians, member of the American Association of Anatomists and Sigma Xi.

INTESTINAL OBSTRUCTION

PHILIP THOREK, M.D., F.A.C.S
CHICAGO, ILLINOIS

The problem of intestinal obstruction still continues to present a diagnostic and therapeutic challenge to the surgeon and the practitioner alike. Despite the many recent advances in electrolyte balance, intestinal siphonage, caloric requirements and surgical technique, the mortality continues to remain high. Any plan which aids in the early diagnosis and treatment of the obstructing lesion helps further to reduce the number of fatalities. Wangensteen, Haden, Orr, Coller and many others have contributed monumental stepping stones which enable us to understand the pathologic physiology of this condition.

Intestinal obstruction is a symptom complex and not a disease, hence, it is not enough to make a diagnosis of "just intestinal obstruction." In attacking this problem we have devised a plan whereby we can make an earlier and more thorough diagnosis, thus enabling proper therapy to be instituted more rapidly. To correctly diagnose the condition it is necessary to ask and answer the following four questions:

(1) Is this an intestinal obstruction?

(2) Is it a large or small bowel obstruction?

(3) Is it strangulated or non-strangulated?

(4) Is the obstruction complete or incomplete?

In answer to question number one: "Is this an intestinal obstruction?"; we expect to find the obstructive triad, namely, distention, obstipation and vomiting. Even though the triad may be present wholly or in part, its individual parts call for clarification. In regard to *distention*, one must define what he means by the term. Since we have no standard for measuring the distended abdomen, we have decided to utilize the anatomic relationship of the umbilicus to the xiphoid process. We believe that the normal abdomen is scaphoid and not flat, hence the umbilicus is normally placed below the xiphoid, the abdomen is called *flat*, and when the umbilicus is above the xiphoid, the abdomen is described as being *distended*. Therefore, when the umbilicus is on a level with or above the xiphoid, some pathologic condition exists. When such an abnormally differential diagnosis of the seven "F's", placed umbilicus is found we consider the namely, Fat, Feces, Fluid, Flatus, Fetus, Fibroids and "Ph"antom tumors. In almost every case one of the "F's" has been found to be the underlying cause. It is important to record the position of the umbilicus when the patient enters the hospital, and to recheck this every hour thereafter. If the umbilicus is below the xiphoid when the patient is first seen, and one hour later is found on a level with the xiphoid, this signifies early distention. In this way we can avoid the development of a late preterminal distention that so many neglected intestinal obstructions present. Regarding *obstipation*, we know that the average intestinal obstruction passes neither feces nor flatus, but we also recall that this may be lacking in incomplete obstruction as for example in Richter's hernia, in which only part of the circumference of the bowel is incarcerated. In such cases the resulting irritation and hyperperistalsis may even lead to a diarrhea which can be most misleading when one makes a diagnosis of intestinal obstruction. *Vomiting*, will be more thoroughly discussed under question number two. Regardless of the absence or presence of the obstructive triad, it is far more important to elicit the one pathognomonic finding of intestinal obstruction, namely, that *pain and intestinal sounds appear at the same time.* This synchronization of sound with pain differentiates intestinal colic from any other type of intermittent pain. The physician should place his stethoscope upon the patient's abdomen when he states that he is getting his pain, and if it is of an intestinal nature he will hear the rushing bowel sounds at this time.

Question number two, namely, "Is this a large or small bowel obstruction?" The most important differentiating factor to this question is whether or not vomiting is present or absent. Patients with large bowel obstructions do not vomit, but those with small bowel obstructions do. We all have seen late cases of large bowel obstructions where vomiting has been present as a late and not too distressing symptom, but in the small bowel

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lesions vomiting appears very early. The higher the obstruction the more fulminating the vomiting. Utilizing this one fact, we can usually differentiate the small from the large bowel obstructions. To use the word "fecal" vomiting as being descriptive of intestinal obstruction is incorrect. The term "feculent" is more descriptive, since fecal vomiting refers to a gastrocolic fistula or some similar lesion. The flat x-ray film is used to further differentiate the small from the large bowel obstruction. It is unnecessary to stand or turn the patient or to give him any contrast media. A flat x-ray film which can be taken with a portable machine will usually give the desired information. If the obstruction is a large bowel lesion, the x-ray plate usually reveals a large distended colon which appears as a horse-shoe or inverted "U". The rectosigmoid is the most common location for these lesions. If, on the other hand, the obstruction is small bowel in nature, the typical paralleling or step-ladder pattern will be present. The history also aids in differentiating the two types of obstructions. A slow, progressive, chronic increasing constipation speaks for a large bowel lesion, but a sudden violent attack signifies small bowel pathology. Patients with intestinal obstruction who have had previous surgery are small bowel obstructions until proved otherwise. The large bowel obstruction resulting from postoperative adhesions is a rarity. A two quart diagnostic enema is also a help. The large bowel can usually retain two quarts of fluid plus its usual contents. If the bowel cannot take the two quarts, this speaks for a large bowel lesion. There are many other ways of differentiating the two, but time nor space do not permit extending this discussion.

Question number three: "Is this a strangulated or non-strangulated intestinal obstruction?", can usually be answered by the presence or absence of *tenderness*. Patients with intestinal obstructions do complain of colicky pain, but the strangulated lesion has plain plus localized tenderness. This tenderness is best found by the patient, who will usually locate the exact point of the pathology. The classical example of this is a strangulated inguinal hernia. The patient has diffuse pain over his entire abdomen, but will permit one to palpate it; however, he resents having pressure made over a strangulated mass because of its exquisite tenderness. Our incision is usually determined by the location of the patient's tenderness. Another differentiating point between the strangulated and the non-strangulated obstruction is the appearance of the patient. A patient who has a strangulated intestinal obstruction is acutely and violently ill and usually is in shock or impending shock, whereas the patient with an intestinal obstruction without strangulation does not present such a dramatic picture. The flat x-ray film may aid in the differentiation of a strangulated from a non-strangulated small bowel obstruction. If a small bowel, non-strangulated, intestinal obstruction is present, the typical step-ladder pattern is observed and the valvulae conniventes are readily seen. If, on the other hand, a small bowel strangulated obstruction is present, no characteristic bowel pattern is assumed since the distended loops arrange themselves in whatever portion of the abdomen the obstruction occurs. The valvulae conniventes are not readily detected or seen because of the extravasation of blood into the strangulated loop of bowel and into the abdominal cavity.

Question number four states: "Is this a complete or incomplete obstruction?" As has been mentioned, a patient with a complete intestinal obstruction passes neither flatus nor feces per rectum, but if the obstruction is incomplete some flatus and feces may be expelled especially with repeated enemas. It is important not to be misled by the results of the first enema, since a copius movement and flatus may be expelled following its administration. This, however, is material which is distal to the lesion. If repeated enemas bring flatus and feces, then we assume that the lesion is incomplete; if the returns of the repeated washings are clear, we conclude that the obstruction is a complete one. A "scout" film of the abdomen should be taken when the patient arrives. This immediately reveals the bowel pattern and also determines whether or not flatus is present in the region of the hollow of the sacrum. If the flatus over the sacrum is absent following repeated enemas, we consider the condition a complete obstruction, but if flatus continues to come down and appear over the sacral region, the lesion is an incomplete one. A patient with a complete obstruction will appear more ill than one with an incomplete lesion, therefore, the clinical appearance and impression is of importance.

Based on these four questions, one may make a proper diagnosis instead of just "intestinal obstruction." The case, therefore, may be diagnosed as a large bowel, non-

strangulated, incomplete intestinal obstruction, or a strangulated, small bowel, complete intestinal obstruction, depending upon the findings.

TREATMENT

When one labors through the voluminous literature on the subject of the treatment of intestinal obstruction, it becomes difficult to apply this maze of material. It is wise, therefore, to have a plan based on a simple summary. We have devised a plan based on the six "S's", since we state that the treatment of intestinal obstruction consists of Suction, Saline, Sanguine, Surgery, Sulfa and the "Stir-'em" technic

Suction, or gastro-intestinal siphonage, has done much to lower the mortality of this condition. It has its pitfalls, however, and these must be kept in mind. It has no place in large bowel obstructions nor should it be used when strangulation is present. On the other hand, it may be curative in postoperative ileus, non-strangulated adhesive obstruction, or in obstruction associated with peritonitis; these are usually small bowel lesions. Its value as a pre- or postoperative adjunct needs no emphasis. To keep a patient with a carcinoma of the rectosigmoid and a large bowel intestinal obstruction on continuous siphonage is to court disaster. Hence, its uses and abuses must be thoroughly understood.

Saline can prolong the life of a patient with an intestinal obstruction, however, it cannot cure the condition. It is an excellent form of supportive therapy. Chloride ions have been lost in the patient who has manifested a great deal of vomiting or in whom continuous gastro-intestinal siphonage has been instituted. These must be replaced, and it is mainly by the use of physiological saline that the patient's chloride balance may be maintained. By restoring this electrolyte balance one is able to put his patient into better condition to withstand surgery, and in this way also to lower the mortality. Saline, however, is not the only supportive therapy that the patient needs; this will be discussed subsequently.

Sanguine is the word used to refer to blood and its derivatives. We feel that the only place for the use of whole blood is in the replacement of lost red cells. We prefer to keep the protein balance of the patient normal with plasma, serum or amino acid therapy. If the obstruction is associated with blood loss, we feel that the fluid of choice is then whole blood. In many cases of strangulated obstructions, or in cases which might necessitate extensive bowel resection, whole blood is preferred. Maintaining a normal protein level permits a patient to properly seal because of his good fibrin content. Hypoproteinemia and hyperchloridemia are two conditions which must be avoided in the case of intestinal obstruction as well as in all other surgical emergencies. Too little protein and too much chloride both produce tissue edema and permit the patient to "drown" in his own body juices. It is because of hypoproteinemia and hyperchloridemia that sutures pull out of edematous tissue. Faulty suturing or material is not the cause of intestinal leakage; this is due to poor pre-and postoperative care. The patient's vitamin needs must be maintained, especially the water soluble vitamins B and C which he loses readily. Vitamin C is truly the "surgeon's" vitamin because this is the one which is essential to sound wound healing.

Surgery is a subject which cannot be discussed adequately in a few minutes or a few pages, and I will only have time to touch upon the surgical highlights as they pertain to the patient with an obstruction. If a patient has a strangulation he should have immediate surgery. As has been stated, the patient will tell us where to make the incision if we just permit him to reveal his most tender spot. Complete large bowel, nonstrangulated lesions require immediate colostomy for the release of intracolonic pressure. We prefer the so-called "blind" cecostomy in such conditions. This is made through an exaggerated McBurney's incision which hugs the anterior superior iliac spine. If the cecum is distended, and it surely should be in an obstructed colon, then it bulges into the wound. It is held in place by two hemostats and an iodoform pack is placed between the cecum and the parietal peritoneum. Following this stitchless procedure, the patient is returned to bed and the cecum is opened some six hours later after it has had a chance to seal off. Since the bowel is edematous and will not retain sutures it is unwise to directly attack an obstructed colonic lesion. It is for this reason that we leave the primary pathology alone and do a preliminary cecostomy away from the site of the lesion. For the following 10 days or two weeks the patient may be deflated, prepared and then reoperated. It is at this time that a true evaluation of the pathology can be made and a resection done. The cecostomy acts as a vent in the event that an intestinal anastomosis is performed. In strangulated lesions we may be confronted with the question: "Is the bowel which has been freed viable or not?"

It seems impractical to stand about placing hot towels on a segment of intestine and watch its color. Viability is readily determined if one merely flicks the bowel with the finger and watches for peristaltic waves. If it is able to contract, regardless of the color of the intestine, it is viable. Intestinal obstruction is usually associated with a transudate which is present in the peritoneal cavity; if this is bloody a strangulation is present. Therefore, if a blind cecostomy is done and a sanguinous fluid noted, we must abandon the cecostomy and explore for the presence of a strangulated lesion. The type of anastomosis performed is purely a personal one, however, we feel that a lateral anastomosis is the safest in the hands of the occasional operator. If time is a factor, one should be familiar with the technic of the so-called quick "asceptic" end to end anastomosis.

Sulfa drugs have taken their place among the chemotherapeutic agents used in the treatment of intestinal obstruction. There is also a place for such allied drugs as penicillin and streptomycin. Following the surgery, we place three to four grams of sulfathiazole or sulfadiazine in the peritoneal cavity and follow this with 40,000 units of penicillin every three or four hours intramuscularly. We do know that penicillin will not affect the colon group of organisms but it will attach streptococci and staphylococci. Sulfadiazine is administered intravenously following the first postoperative day and streptomycin is coming into its own as the main chemotherapeutic agent against the gram negative rods. Sulfasuxidine and sulfathaladine will keep the bacterial count low in the intestinal tract if those drugs can be taken by mouth.

By *"stir-'em" technic* we mean early ambulation, active and passive movements and breathing exercises. The beneficial effects brought about by getting patients out of bed as soon as possible have been well proven. We do not wish to infer that early ambulation should be carried to an extreme. It is our plan to have our major surgical cases out of bed on the first postoperative day, however, each case presents an individual problem. Having the patient move about, having him take a few deep breaths every hour, and encouraging arm and leg movements all play their part in lowering the incidence of phlebothrombosis, pulmonary complications and their sequelae.

Only the surface has been scratched in this discussion of the vast subject of intestinal obstruction, however, we feel that if we approach the problem with the "Four Questions," make a diagnosis based upon these, and then summarize the treatment with our "Six S's", we should have a logical approach to a given case.

LIFE MEMBERSHIP

Petitions for Life Membership have been filed in the Executive Office for the following and have been presented to the Council for its recommendations.

John M. Alford, M.D., Oklahoma City
E. Eldon Baum, M.D., Oklahoma City
Thomas Berry, M.D., Eldorado
John Richard Callaway, M.D., Pauls Valley
Hiram G. Campbell, M.D., Tecumseh
Pierre N. Charbonnet, M.D., Tulsa
J. W. Childs, M.D., Tulsa
W. T. Hawn, M.D., Binger
Walter Johnson, M.D., Ardmore
Everett S. Lain, M.D., Oklahoma City
J. B. Lansden, M.D., Granite
T. C. Leachman, M.D., Woodward
McDonald Looney, M.D., Marietta
E. M. Poer, M.D., Mangum
Lea A. Riely, M.D., Oklahoma City
David D. Roberts, M.D., Enid
Thomas W. Stallings, M.D., Tulsa

AMALGAMATIONS

The following have made application for amalgamation or dissolution. All requirements have been met and the petitions are in order for presentation to the Council and House of Delegates:

Comanche-Cotton (amalgamation)

Atoka-Bryan-Coal-Johnston (dissolution — removal of Johnston County from the amalgamation)

ASSOCIATE MEMBERSHIP

The following applications have been received for Associate Membership:

Edward H. Sutliff, M.D., Clinton

Lt. Col. Byron A. Nichol, Ft. Sill

HAZARDS OF SPLENECTOMY

HAL A. BURNETT, M.D.
OKLAHOMA CITY, OKLAHOMA

AND

A. M. BRIXEY, M.D.
JOLIET, ILLINOIS

Since Virchow in 1845 associated splenomegalies with leukemia, efforts to correlate splenic disease with laboratory and clinical observations have persisted. The fruits of these investigations have led to the discovery of disease entities that respond favorably to splenectomy. Splenectomy is now generally recommended for congenital hemolytic icterus, idiopathic thrombocytopenic purpura, Banti's syndrome (congestive splenomegaly), rupture of the spleen, tumors, cysts, torsion and abscesses of the spleen. To this list Kracke[1] adds primary splenic neutropenia and primary splenic panhematocytopenia. Lahey[2] recommends removal of malarial spleens and, in addition, believes that splenectomy should be included in operative procedures for the radical removal of malignant lesions and better exposure in the left upper abdomen. Splenectomy has also been advised or acquired hemolytic anemia and Gaucher's disease.[1,3] However, Norcross[4] states that the operation is not justified in the latter condition. Splenectomy is definitely contra-indicated in aplasia of the bone marrow and agnogenic myeloid metaplasia.[4] In the latter disease, the spleen assumes the function of the bone marrow.

A review of 53 splenectomies performed at the University of Oklahoma Hospitals during the last 22 years is reported to exhibit results (Table I) and to invite consideration of the factors contributing to morbidity and mortality.

Splenectomy should not be undertaken without proper indications. These can only properly be determined by the close cooperation of the surgeon with a hematologist. An ill-considered operation may be needless, and exposes the patient to a mortality rate that approximates 10 per cent. Operation for idiopathic splenomegaly, large malarial spleen, leukemia, and sickle cell anemia has been futile in the majority of cases. From an analysis of 37 splenectomies, Tanna[5] draws a similar conclusion. Deaths following splenectomy without indications are not rare. Phillips and Knoepp[6] report three deaths following splenectomy for leukemia. Andrus and Holman[7] disclose deaths following splenectomy for refractory primary anemia, nodular cirrhosis, and retothelial sarcomatosis. In our series, the removal of a luetic spleen resulted in death.

Age is pertinent. In a series of 1003 cases of splenectomy for all indications, Pemberton and Kiernan[8] reveal a rising incidence of operative mortality with age. Their figures disclose that from 0-9 years the mortality rate was 4.4 per cent, and that from 60-70 years the mortality rate was 19.4 per cent. For each intervening 10-year period, there was a proportionate increase.

For the hemolytic anemias, congenital or acquired, splenectomy offers the best prognosis and the least surgical hazard. In our series of 14 cases, 12 were definitely improved, and only one postoperative death occurred. Thompson[9] describes complete remission in 23 of 30 patients operated, and only one post-operative death. Aside from the patient's general condition, a frequent obstacle to successful treatment is the acute hemolytic crisis. Disagreement prevails as to the value of blood transfusions before surgery. Wintrobe[10] states that blood transfusion in patients with primary hemolytic anemia is often followed by a severe reaction, even if the cross-matching is satisfactory, and suggests that transfusions are more successful after surgery. Dameshek[11] reports the use of transfusions alone in the treatment of 66 cases with a mortality rate of six per cent, and postulates that transfusions provide a necessary anti-hemolysin. In his series of 23 cases treated with splenectomy, good results were obtained in 20. In our series, the mortality rate was 7.1 per cent. It has been reported as low as 3.0 per cent.[8]

For idiopathic thrombocytopenic purpura, the results of splenectomy have been less spectacular. Favorable results were obtained in 61.5 per cent, but the operative mortality was 23.0 per cent. The operation should be preceded by careful hematologic studies to exclude a secondary purpura, for which surgery is frequently attended by tragic results. A bone marrow aspiration showing a decreased number of megakaryocytes should militate against surgery. With respect to the acute phase, the optimum time for surgery proposes another consideration. Eliason and

Ferguson[12], in a study of 195 cases, report a mortality rate of 34.4 per cent for surgery in the acute phase, and a mortality rate of 7.0 per cent for the chronic phase. They believe, however, that uncontrollable bleeding in this condition, whether acute and severe or recurrent, is the indication for splenectomy. Reznikoff[13] notes the high mortality rate of surgery in the acute phase, but discloses that the rate is higher if operation is not done, even in the acute phase.

Splenectomy for Banti's syndrome has been discouraging. Only 25 per cent of the cases in our series were improved, and the operative mortality rate was 25 per cent. Of the eight patients that were not improved, three died later within a seven year period. Barg and Dulin[14] report an operative mortality rate of 36.3 per cent. These figures suggest that splenectomy for Banti's syndrome should be advised cautiously.

Table II shows a striking disparity in the mortality rates of splenectomy for the previous two consecutive 11 year periods. From 1928 to 1938, inclusive, the mortality rate was 46.6 per cent; from 1939 to 1949, inclusive, the mortality rate was 7.8 per cent. Except for one case, all of the postoperative deaths resulted from hemorrhage. In most cases the advanced nature of the disease and acute exacerbation were prominent factors.

The injudicious control of bleeding at operation cannot be overlooked as contributing to mortality. With large spleens, firm vascular adhesions are present, and complete hemostasis is difficult. Accurate hemostasis is, however, an important precaution in patients with a known tendency to bleed easily. Adhesions to the omentum, colon and abdominal wall should be divided under direct vision. Adhesions to the diaphragm should be severed between ligatures. Hot lap sponges to arrest venous oozing are not as effective as in other procedures. All manipulations should be conducted gently so that friable veins and splenic tissue are not torn. Particular attention to the short gastric arteries should be directed so that postoperative mobility of the stomach will not excite bleeding.

Injury to the tail of the pancreas is not a major hazard. Stern[15] does not list splenectomy as a frequent cause of pancreatic injury, and Schmieden and Sebening[16] recorded only seven cases occurring with splenectomy out of 145 operative injuries to the pancreas.

The mortality rate for all 53 splenectomies in our series was 18.8 per cent. Cole, et al,[17] report a mortality rate of 8.0 per cent in 87 cases, traumatic surgery excluded. The rates reported by other authors compare favorably. The decline in mortality since 1900, as reported by Pugh[3], is probably accounted for by a more complete understanding of diseases affecting the spleen, improved diagnostic methods, the widespread use of blood transfusion, and better techniques of surgery and anesthesia.

SUMMARY AND CONCLUSIONS

A review of the results of 53 splenectomies is reported. Indications and factors contributing to mortality are briefly discussed. It is proposed that resort to splenectomy without proper indications is hazardous, and the meticulous control of bleeding at operation is extolled as a necessary precedent to low incident of mortality.

TABLE I

CONDITION	*No. of Cases*	*Improved*	*Per cent*	*Deaths*
Banti's Syndrome	16	4	25.0	4
Idiopathic Thrombocyto. Purp.	13	8	61.5	3
Congen. Hemolytic Icterus	11	9	81.8	1
Acquired Hemolytic Icterus	3	3	100.0	0
Ruptured Spleen	3	2	66.6	1
Idiopathic Splenomegaly	2	0	0.0	0
Incidental to other Surgery	2	0	0.0	0
Splenic Neutropenia	1	1	100.0	0
Gaucher's Disease	1	1	100.0	0
Gumma	1	0	0.0	1
TOTAL	53	28	52.8	10

TABLE II

Splenectomies	*No. of Cases*	*Deaths*	*Mortality Rate*
1928-1938 (inclusive)	15	7	46.6
1939-1949 (inclusive	38	3	7.8
TOTAL	53	10	18.8

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CLINICAL PATHOLOGIC CONFERENCE

The University of Oklahoma School of Medicine
Presented by the Departments of Pathology and Surgery

HOWARD C. HOPPS, M.D. AND HARRY WILKINS, M.D.
OKLAHOMA CITY, OKLAHOMA

DR. HOPPS: Our case of today terminated with signs and symptoms of obvious intracranial disease. One of the major problems will be to determine whether this is causally related to the entire present illness or a coincidental development late in the patient's course.

PROTOCOL

Patient: J. F. B., 56 year male.

Chief Complaints: Patient was first seen in the Emergency Room at University Hospitals 38 days before his death. He had been well until about 5 months before this time when he began to have episodes of nausea and vomiting with dizzy spells 2-3X a week, relieved by Sal Hepatica. These episodes increased in frequency until they occurred at least once a day. The patient had no pain, but complained of a full feeling in the stomach, said that his food didn't seem to digest and that he had been constipated "lately". He had lost about 20 lbs. in the six weeks prior to being seen here. He did not know whether he had vomited blood or had tarry stools since his vision was very poor and he was also color blind. When first examined, no very striking physical changes were evident. BP was 120/80. The left eye was absent. The right pupil was round and reacted to light and accommodation. The fundi were negative. Impression was of carcinoma of the stomach with chronic obstruction. X-ray examination disclosed pylorospasm with 40 per cent retention at three hours. Further investigation revealed a great deal of personal and family troubles contributing to a state of "nervousness and tension". History states he had almost completely lost vision within the past several years, but without suggestion as to mechanism. The patient was edentulous and too nervous to wear artificial dentures; too poor to buy medicine, etc. The patient gave a history of many injuries, some of which resulted in broken bones.

After conservative Outpatient medical management (during approximately one month) which produced little change, he was seen in the Surgery Clinic where again much psychic background for his trouble was uncovered. The patient said he felt better at the hospital than at home because three grandchildren lived in the house with him and they got on his nerves. An Ewald meal revealed 20° free acid, 42° total acid, and 85 cc. volume.

Five days before the patient's death he came to the OPD stating that he had eaten some meat that didn't agree with him and that he had been vomiting and was sick at his stomach. He was treated conservatively, but returned to the Emergency Room that same evening because of severe head pain; he had not lost consciousness during this episode. It was considered that he might have had a very recent cerebrovascular accident. He was sedated (one grain of codeine hypodermically) and immediately admitted to the hospital where more detailed present illness was elaborated. It was then learned that six months before (at the beginning of present illness) the patient awoke one morning, found himself to be very dizzy, had a ringing in his ears, and soon developed nausea and vomiting which persisted intermittently, gradually increasing in frequency. The patient described his dizziness as "light headedness". He stated that objects moved around in front of him and that he had trouble keeping his eye still.

Physical Examination: On admission: P. 70; T. 97.5°; BP 202/152 — formerly this had been within normal limits. The right pupil was small. The funduscopic examination was difficult but the margins of the disk were "fairly sharp" and the observer did not believe that papilledema was present. There was "nystagmus to the right"; the pupil reacted slowly and slightly to light. The skull was not remarkable. External auditory canals were "narrowed bilaterally". The membranes were gray, dull, scarred and retracted (chronic otitis). There was no discharge. The mouth was dry. The tongue was essentially normal and did not deviate to either side. The uvula was in the midline. The neck was stiff and resisted passive motion. There was a positive Brudzinski sign. Tendon reflexes were reported normal. Respirations were rapid and rattling and there was moderate dyspnea. There were loud, coarse, moist, inspiratory and expiratory rales throughout. Examination by percussion was essentially normal. The heart

was not remarkable; loud rales limited auscultation. Pulse was weak, rapid, of varying intensity, but regular. Abdomen and genitalia were not remarkable. Rectal examination revealed prostatic enlargement without nodules or tenderness.

Laboratory Data: On hospital admission urine specific gravity was 1.023 with 2+ proteinuria, innumerable RBC's, occasional WBC's. No casts were recorded. RBC's numbered 4.54 million; Hb was 14 gm. per cent. There was a leukopenia of 2,850 with 83 per cent neutrophiles (36 stab forms, 15 juveniles, 1 myelocyte); there were 13 lymphocytes and 4 monocytes. NPN was 50 mg. per cent. Mazzini test was negative. X-ray studies (during course in OPD) revealed — No pathology of the esophagus, stomach or duodenum except considerable spasm of the pylorus with 40 per cent retention after three hours. Fluoroscopic examination of the chest was negative. A month later, when repeated, there was moderate pylorospasm again and, as far as could be seen, a nondeformed duodenal bulb. Request was made for repeat examination after the administration of antispasmodics.

Hospital Course: A lumbar puncture was done upon admission. Pressure was over 450 mm. and the fluid was grossly bloody. (There is no record of laboratory analysis of this or subsequent spinal fluid specimens.) By the second hospital day blood pressure had dropped to 118/84. The patient appeared lethargic and his voice was husky. He apparently was becoming progressively dehydrated and 1,000 ml. of 10 per cent glucose was given intravenously that day, two liters of fluid the next day and one liter the day after this (the day before death). On the fourth hospital day the patient's condition appeared worse. He was restless and attempted to get out of bed during the night; he was given three grains of phenobarbital. The next day he moved very little and appeared semicomatose, although he acted as though he heard what was said to him. On the fourth hospital day an ophthalmologist examined the retinal fundi and felt that papilledema was present. Another lumbar puncture was done that same day, the fluid was grossly pink and under 115 mm. of pressure. The following day the patient appeared to be somewhat better and was somewhat more alert and responsive. Later, on this fifth hospital day, the patient became "moribund again", blood pressure dropped and remained at systolic of 70-80 (diastolic not given). He developed cyanosis. Another spinal tap revealed pink fluid with a pressure of 165. He was thought to have diffuse pneumonitis although he had been receiving prophylactic penicillin. The patient died on the sixth hospital day "apparently from pneumonia". His course had been afebrile except during the last two days when his temperature rose to 101-102°.

CLINICAL DIAGNOSIS

DR. WILKINS: As you see a patient in your office complaining of nausea and vomiting, so many possibilities are spread before you that you must find out some details as to the character of that vomiting — details that are not recorded in our history here. The fact that the patient had associated dizziness brings up the possibility of central nervous origin. This does not suggest to me generalized increase in intracranial pressure because in that case there would probably have been some statement that the vomiting occurred after a period of sleep or after reclining when, because of a lack of effect of gravity in draining venous blood from the head, there is a tendency for intracranial tension to reach a maximum. Thus headaches and vomiting of generalized intracranial origin are more prone to occur late at night, or about the time one gets up in the morning and tend to clear after the patient is up and active and his circulation has improved.

If the patient's vomiting and nausea were due to a primary intracranial lesion there are many types of lesion to consider. The neurological examination apparently gave very little evidence as to a central lesion that might have produced disturbance of the mechanism associated with balance, with hearing and with coordination of movement. More often vomiting occurs with lesions affecting structures within the posterior compartment associated with the cerebellum or in relationship to the cerebellum or brain stem. If this hypothetical lesion were an expanding one, there should have been, early in the course of the illness, increased pressure, because a relatively small lesion in the posterior compartment can obstruct the flow of cerebrospinal fluid and produce headache, usually low frontal or sub-occipital, later becoming generalized. Vomiting, as we have mentioned, tends to occur early in the morning and headache early in the morning or late at night. Choked disk would be found rather soon in the course of such generalized intracranial pressure. It was noted when the patient was admitted to the hospital that the optic disks were rather sharp cut in outline and that in itself excludes choked disk. It is

true that one may have generalized intracranial pressure without having a choked disk or without visual disturbance, headache or vomiting. Generally, however, you can expect at least one of these findings and often all of them. In the history and findings that I have been presented, I did not observe any evidence of involvement of cranial nerves, or at least not so originally. For instance, an eighth nerve tumor tending to increase in size and to reach a point where it obstructs the ventricular system may give predominant symptoms relating to increased pressure, but if you go back to the order of symptoms as they appeared you will usually find that the patient had disturbed hearing, tinnitus, periods of vertigo — or perhaps acute vertiginous attacks that may have caused the patient to lose his balance and fall. Then, as this eighth nerve tumor progresses, even before general pressure signs develop, associated signs may appear from involvement of neighboring cranial nerves. Changes of the fifth nerve produce numbness in the face, often appearing in the cornea before it does elsewhere because that is a more sensitive area of innervation of the fifth nerve. Then come difficulties in swallowing, difficulties in phonation — if you review this patient's hospital progress there came a time when he had some difficulty in swallowing.

The abruptness of onset of his dizziness, which he found one morning on awakening, would immediately bring to mind the possibility of some vascular episode producing *cerebral hemorrhage*. In a man of 56 who has a blood pressure of 120/80 one might think first of rupture of a vessel due to some defect in the particular vessel involved rather than due to generalized cardiovascular disease. I have in mind a small aneurysm of the sort which may make itself known at any time through life from early childhood right on up into old age. The abruptness of onset of this patient's present illness raises the question then of an initial vascular episode six months ago. From that time on there had been more or less persistence of dizziness and of nausea and vomiting.

We note on admission to the hospital that his blood pressure was elevated, 202/150. Rapidly rising intracranial pressure may produce a hypertension and it may appear rather abruptly, in a period of minutes, or at least a few hours. For instance, in the rupture of a middle meningeal artery with continuing arterial bleeding, one observes a drop in pulse rate and an increase in blood pressure with the increase in systolic keeping way ahead of the diastolic so that the pulse pressure widens. It has been pointed out that when the pulse pressure increases beyond the pulse rate the patient with rapidly rising intracranial pressure is in imminent danger.

As I look as this blood pressure of 202/152 I'm not convinced that it is from rapidly rising intracranial pressure because the diastolic is so high. I would think more of some cardiovascular-renal difficulty and would be interested in knowing whether or not there was retention of nitrogenous products in the blood, and learning something of the character of the urine, including the urinary output. The patient had a concentrated urine (1.023), and he had 2+ albumin with innumerable red blood cells and occasional white blood cells; there were no casts. His blood count seemed to be pretty well within the limits of normal except for a rather marked leukopenia, 2,850 cells, and 83 per cent of those were neutrophiles. His NPN was elevated slightly, 50 mg. One may see people with much higher non-protein nitrogen levels than this who are not presenting any specific complaints, but occasionally one sees a patient such as this who is in the process of rapidly developing uremia. Under these conditions an NPN determination on the day of admission might be much less than one would find it three or four days later. With *uremia*, brain changes can occur that would give rise to vomiting, but you wouldn't expect it to be a chronic thing over this period of six months time.

As we observe this man's hospital course, he was considered to be quite dehydrated by the high concentration of urine. He was given fluids intravenously and on the fourth hospital day he appeared much worse. He was restless, attempted to get out of bed during the night and was given phenobarbital. It is difficult to know how much of his worsening was due to sedation with phenobarbital, you wouldn't expect a great deal of somnolence from 3 gr. of phenobarbital, but this state of restlessness is a thing that clinically is foreboding. It suggests that something is going on, whether it be increasing intracranial pressure, distention of an already full bladder, toxemia, or perhaps intoxication from the medication. These things always come to our mind as we see such a patient growing more restless in the hospital. The simple thing to do is try to relieve any painful condition, e.g. an over-full bladder. An extra sponge bath, a change of linens, etc., very often will help too, and may

eliminate the need for sedation at such a critical time as this. Sedation is apt to cloud the picture and produce an increasingly disturbed cerebration which may defeat your investigation by masking possible focal or general signs of central nervous system involvement.

In a case of suspected increased intracranial pressure one should always do a funduscopic examination before considering lumbar puncture. If papilledema is present one must be cautious about doing a spinal puncture in order not to produce foraminal herniation and a rapid worsening of condition. There is a note here that although the eye ground appeared normal — there was no choke, spinal puncture revealed a pressure of 450 mm., which is definitely above normal range. We don't have a single normal figure; between 100 and 180 mm. is the range of normal. A pressure of 450 is definitely out of normal range. This is rather unusual in the absence of a choked disk unless it is early in the process of increasing intracranial pressure. About the fourth hospital day an ophthalmologist examined the retinal fundi and stated that papilledema was present so that this pressure that had been recorded a few days back had now persisted for long enough to give rise to a choked disk. Another lumbar puncture was done that same day. The fluid was grossly pink and under 115 mm. pressure. It is of interest that we originally should have had grossly bloody fluid of a very high pressure and normal eye ground and that now the eye ground shows a choke, but spinal fluid is under normal pressure. How can we correlate these findings? Possibly we are dealing with a pressure cone that has so thoroughly obstructed the spinal canal that the pressure in the lumbar subarachnoid space does not represent what is actually present in the cranium. I add this as a point against relying too much on spinal puncture for information about pressures.

The following day the patient appeared to be somewhat better and was more alert and responsive. Later, on this fifth hospital day, he became moribund again, blood pressure dropped and remained at a systolic of 70 to 80. He developed cyanosis. The record doesn't say anything about respiration, but I can imagine that it was very rapid, possibly showing some irregularity. Certainly his blood pressure level suggests that he had passed beyond the point of trying to compensate for his difficulties of intracranial pressure. Death occurred on the sixth hospital day, with a rise in temperature to 101-102°. This is the first time the temperature has been mentioned. I think it would be well to review some of the additional possible diagnoses. What about *brain abscess*? An abscess within the brain during the acute invasive stage may give a febrile reaction, meningeal reaction and a rapid pulse, just as infection elsewhere in the body is prone to do. But, as the process localizes and a wall begins to form, the temperature is apt to become subnormal and there is apt to be a very slow pulse, down in the 40's or lower 50's. These patients are prone to have headache that stands out beyond anything else, even the vomiting. For some reason abscess tends to produce quite excruciating headaches. I didn't feel, as I reviewed this record that we were seeing signs suggestive of brain abscess. I think too that there would have been more choke early and more localizing signs unless the abscesses were multiple. The presence of bloody spinal fluid certainly indicates a break in the vascular system. It does not tell us whether this break is arterial or venous. It does not tell whether, if arterial, that it is due to rupture of vessels that are involved in an arteriosclerotic process or due to a ruptured aneurysm. Details of onset may help toward determining which of these conditions causes the break in the vascular system. With a past history of rather normal blood pressure in a man that is only 56, arteriosclerosis and frank rupture, as in so-called stroke, seems less probable than an anomalous vascular condition such as an *intracranial aneurysm*, or arteriovenous malformation. There is no story of trauma. One must always consider the possibility of *traumatic injury* as a cause of bleeding when you find this sort of picture. Sometimes even after several re-investigations, one finally turns up a history, days later, of the trauma that occurred, either a fall due to dizziness or a bump on the head, striking the head on the corner of the door, etc. There is nothing to support trauma in this history or these physical findings. I feel that we must also consider the possibility that this person was developing an encephalopathy due to primary *renal disease* and that the hemorrhagic process producing the bloody cerebrospinal fluid might be secondary to those changes that occur with hypertensive encephalopathy. So then we have, as I see it, in order of probability: 1) vascular disease due to aneurysm, or other anomalous structure; 2) vascular leak, secondary to those changes associated with nephritis and hyper-

tensive encephalopathy and 3) bloody fluid resulting from an intracranial neoplasm primary or secondary.

Chest x-ray should always be done to exclude metastasis from a primary tumor of the lung.

CLINICAL DISCUSSION

QUESTION: Do you relate thas man's symptoms of all these months to a lesion of the central nervous system, or do you think he had a peptic ulcer or something of that sort?

DR. WILKINS: I think it highly improbable that his symptoms over this period of months could be related to an organic central lesion, e.g., tumor, aneurysm, and certainly not a metastatic tumor. It's improbable that it could be related over this period of time to any renal situation because that, I believe, would have shown its nature more directly and would have terminated long before this .

Dr. Flanigin, do you have other suggestions as to diagnosis?

DR. FLANIGIN: I agree that it is most likely vascular. The initial history suggests a thrombotic phenomenon with reduced vascular resistance in this area.

DR. WILKINS: One must be mindful of small focal thrombotic phenomena that are sub-clinical from the standpoint of localization. When one thinks of a stroke one thinks more of a complete hemiplegia, monoplegia or aphasia — something that is quite definite. Thrombosis of a minor radical of some vessel in an area that is not too important might not produce serious signs.

QUESTION: What is the significance of the marked leukopenia and left shift?

DR. WILKINS: I think I will have to leave that to someone else for subsequent discussion because I don't believe I understand the significance of that in this particular problem.

QUESTION: What is the significance of the nystagmus?

DR. WILKINS: I think that one must pay attention to that and try and determine whether there are associated disturbances, delve into the problem of medication, etc. We have all been taken in time and again by effects of some of the barbiturates and anticonvulsions because they may produce that sort of thing. I think that this nystagmus, without supportive clinical findings, would simply be best recorded and held for consideration as to what might develop. It does raise the question of focal involvement of the vestibular apparatus, or cerebellar pathways. This is a pertinent point.

QUESTION: Could the chronic otitis media have extended to produce a more extensive involvement?

DR. WILKINS: Yes, we must look into that carefully. If you go back to read the description, it speaks of the tympanic membranes being gray, dull, scarred, retracted. If you were dealing with a purulent process locally in the external canal, investigated and found perforation of the drum, you would follow that clue rather carefully. Not only would you wish x-rays of the mastoid, but views that would show up the petrous ridge too. When the petrous ridge is involved you are very apt to have some associated seventh nerve involvement of peripheral type along with disturbed loss of hearing and disturbance producing nystagmus to the side opposite the lesion. I believe you would pick up these signs pretty readily. Also, those people are generally febrile and acutely ill and may have disturbed circulation by thrombosis of the lateral sinus. This you can determine during the spinal puncture procedure by unilateral jugular compression.

ANATOMIC DIAGNOSIS

DR. HOPPS: Several have commented upon this patient's leukopenia. Any time one sees a leukopenia with a marked shift to the left one must consider an overwhelming septic reaction to which the patient is responding, as manifested by the left shift, but with a response which is wholly inadequate, hence the decreased number of leukocytes. Such a reaction as this forebodes disaster.

Gross findings at autopsy were not dramatic. The most striking changes were in the lungs. These were tremendously increased in weight, the right weighed 1350 gm., the left 1170 gm., which is almost three times the normal. They were congested, edematous and there were numerous areas of nodular induration with beginning suppuration in some and beginning organization in others. The patient did actually have an overwhelming infection — suppurative pneumonia. This was probably the precipitating cause of death. Other viscera showed little change. There was no lesion in the gastrointestinal tract to account for the patient's symptoms.

The brain was moderately increased in weight and there was a moderate cerebellar pressure cone. An area of recent subarachnoid hemorrhage extended over both cerebral hemispheres, mostly in the vertex, but extending also to the inferior portions of the parietal lobes. Just to the right of the medulla oblongata, in the right cerebellar

hemisphere, there was a 1.5 x 2 x 1 cm. area of more extensive recent hemorrhage. Underlying this area there was a focus which grossly appeared to represent softening and which involved the superior, supralateral part of the medulla and the inferior cerebellar peduncle. The true nature of this lesion is best demonstrated by the microprojector. One does see considerable hemorrhage and hemorrhagic destruction of cerebellar tissue. However, along one broad periphery, one sees tissue of an entirely different sort, neoplastic tissue. This is a glioblastoma composed of numerous spindle shaped cells which resemble fibrous tissue intermixed with moderate numbers of tumor giant cells, many of which are multi-nucleated. There is much anaplasia and pleomorphism. It is evident that the hemorrhage occurred with the tumor mass and hemorrhage is a common occurrence in tumors of this sort.

Actually then, it was this neoplasm which was responsible for the hemorrhage that occurred and which precipitated a sudden increase in intracranial pressure. Furthermore, I believe that the severe pneumonic process described can also be related to this intracranial lesion. Suppurative bronchopneumonia of the type which this patient exhibited is usually aspirative. It is likely that the loss of consciousness was responsible for aspiration of infectious material, perhaps mixed with vomitus.

The pertinent items in our final pathologic diagnosis are:

1. Glioblastoma of cerebellum with recent destructive hemorrhage into left cerebellar hemisphere and subarachnoid space.
2. Bronchopneumonia, bilateral, marked, with suppuration and beginning organization.

We are fortunate to have in our Department of Pathology a very competent neuropathologist, Dr. Joel. I have asked him to comment on this case.

DR. JOEL: Glioblastoma is an uncommon neoplasm. This is fortunate because of its high degree of malignancy and very poor prognosis. Dr. Hopps has demonstrated one of the sections of this tumor. There was considerable variation in appearance in different fields and in different sections. In some areas the appearance was more that of an astrocytoma, fibrillary type. However, other regions presented the typical appearance of glioblastoma as manifested by marked pleomorphism, many giant cells, and the very characteristic pseudo-pallisade formation. The neoplasm is rich in capillaries and in many areas there is endothelial proliferation with thickening of capillary walls. This, certainly, is an unusual case in that first the location of the tumor in the cerebellum is very uncommon. It seems probable that the original location was in the region of the pedunculi with secondary involvement of cerebellar tissue. A second unusual feature is the slow rate of growth of this neoplasm. In retrospect, it appears that this man's symptoms of some seven months were all related to this tumor. As Dr. Wilkins indicated, neoplasms of this sort ordinarily grow much more rapidly and produce striking evidence of increased intracranial pressure shortly after the first signs and symptoms are evident.

NOTICE

Postgraduate Course in Internal Medicine Will Be Postponed During Week of May 21-23, 1951. Teaching centers where the course will be recessed include, Altus, Mangum, Hobart, Elk City and Clinton.

President's Page

The most important and effective weapon against socialized medicine in this country was the promotion of voluntary prepaid plans of health insurance. Despite this fact, Oscar Ewing in a recent report to the Congress renewed his proposal for a system of social insurance and re-emphasized that, in his opinion, the voluntary system of insurance has no place in the health and care of the American people. He further stated that it offers only limited protection and cannot effectively meet the needs of the entire population.

Mr. Ewing obviously overlooked the fact that approximately 70 million people in America have some form of health insurance. As doctors, we are naturally interested in the various plans and have watched their growth, oftentimes enjoying a sense of pride because of the manner in which the people have grasped the opportunity to participate in a plan which would afford them a reasonable degree of security against the high cost of catastrophic illness.

The Blue Cross-Blue Shield Plans have experienced perhaps a more rapid growth than any other plan. The annual report of their operations in Oklahoma has just been released. It reveals a very interesting story and several points should be observed. (1) In Oklahoma, Blue Cross was organized in 1940 and now has 356,000 members; the Blue Shield Plan was organized in 1945 and now has 227,000 members; (2) Payments to hospitals during 1950 amounted to $2,983,719.70 for 55,122 patient days; (3) Payments to doctors were in the amount of $1,277,558.72; (4) The rate of hospital admissions increased; (5) The length of stay of Blue Cross patients is longer than non-Blue Cross patients.

These expenditures are proof of the major part these organizations are playing in augmenting the payment of the costs of hospital and medical care in our own state. Throughout the nation Blue Cross-Blue Shield, non-profit organizations, stand as one of the very important influences in preserving our Voluntary System which is the American way of life. What they are attempting to do fits into the broad pattern of an ideal that we are striving to sustain and defend. The Blue Cross plan has endeavored to meet our patients' needs by increasing the benefits which have to be liberal in order to accomplish the job before it, thus placing the financial recovery of our patients in a category with their physical recovery. This is particularly true in illness of a prolonged nature where the expense to the patient may be a vital factor in retarding recovery.

To finance such a program, Blue Cross-Blue Shield was compelled to increase its dues. It is a well known fact that hospital costs have increased during the past year; thus, Blue Cross payments necessarily had to be adjusted to meet this rise in costs. Blue Cross was intended to care for the patient ill enough to require hospitalization. It should not be substituted for office or home treatment. The public's insistence on hospital admission because of Blue Cross membership can result in abuse of the privilege and result in the services of the plans being priced too high for the lower income groups and those who are most in need of such assistance to care for their medical and hospital needs.

The officers of your State Association are working with Blue Cross-Blue Shield in every possible way to assist in the operations and interpretations from a medical standpoint. As physicians, we should assume definite responsibilities for the protection of the plans from unnecessary use by the members; we should consider the control of admissions and the length of stay of our Blue Cross patients as part of our professional obligation. It will take only a small amount of our time to explain the benefits, the privileges, the causes for necessary increases in rates and other information to our patients and thus assist our major partner in better serving our patients.

Let us hope that those who have not had a previous opportunity to visit the offices of Blue Cross and Blue Shield will do so while attending the Annual Meeting of the State Association, and thereby secure first hand information and gain a greater knowledge of its operations.

Ralph McGill

President

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Fightin' Talk

As this issue of Fightin' Talk goes to press, the last gangplank had been hoisted on the ships carrying the 45th Division to Japan in the March sailing. Complete addresses have not been received for 45th Division physicians except for *First Lt Kenneth G. Ogg* whose address lists his name and M.C., 0-984532, Medical Det., 45th Div. Artillery, APO 86 c/o Postmaster, San Francisco, Calif.

According to information received in the Executive Office at press time, only two Oklahoma physicians remained at Camp Polk with members of the 45th yet to be trained. They are *Lt. Col. James O. Hood*, Norman, and *Capt. Joe Ed Collins. Thomas Davis*, Tulsa, was released from service before the 45th sailed.

Writing from Inchon, Korea, *R. Ray Johnson, Lt. C.C., U.S.N.R.*, Britton, gives his address as U. S. S. Consolation AH-15, FPO, San Francisco, Calif. Lt. Johnson was recalled to active duty in September and has been in Korean waters since that time. A 1944 graduate of the University of Oklahoma School of Medicine, he also practiced in Oklahoma City for a short time.

Now at Lackland Air Force Base, San Antonio, is *Capt. Robert P. Holt*, Oklahoma City. His mailing address is 3115 South Stephenson Road, Billy Mitchell Village, San Antonio, Texas.

Maj. Harry T. Avey, Oklahoma City, writes that he has been moved from Camp Stoneman, Calif. to Anchorage, Alaska, Elmenday AFB. His address is: A02213463, Hq and Hq Sq, 5005th Hosp Corps, APO 942, c/o Postmaster, Seattle, Washington.

New address for *M. K. Braly, Lt. (J.G.), formerly* of Mooreland, is RR1, Box 1325, Carlsbad, Calif.

John D. Capehart, Tulsa, is now at the Medical Field Service School, San Antonio, Texas, for training and will receive his duty station upon completion of his training.

Most recent address received for *Lt. Royce Means*, Marietta, is MC, ORC, Hq and Hq Det. U. S. Army Hospital, Fort Still, Oklahoma.

Lt. E. A. Walker, Yukon, who was recalled to active duty last summer with the U. S. Marine Corps 20th infantry reserve battalion, was slated to be released from active duty as the May Journal went to press. He had been stationed at San Diego.

Complete address for *Lt. R. A. McLauchlin*, Okeene, is 3810th Med. Grg. Maxwell Army Air Force Base, Montgomery, Alabama.

Also at Maxwell AFB is *Maj. Athol L. Frew*, Oklahoma City. Maj. Frew holds both medical and dental degrees and is an oral surgeon. A member of the Oklahoma County Medical Society, Major Frew elected to enter the dental corps.

A more recent address than last reported has been received for *Commander Neven W. Dodd, M.C., U.S.N.R.* It is: U.S.S. Bairako (CVE 115) FPO, San Francisco, Calif.

Lt. Hollis Hampton, Antlers, is stationed at Sheppard Air Force Base, Wichita Falls, Texas.

A navy doctor loaned to the army is *Robert L. Meiers, Lt. (J.G.)*, formerly of Sayre, who is stationed at Camp Chaffee, Arkansas.

Formerly of Wagoner, the navy address for *E. A. Jones, Lt. Com.*, is USN25, MO2, AA2, Newport, Rhode Island.

Previously reported with a hospital train, a more complete address is available for *Maj. George T. Ross*, Enid. It is: Letterman Army Hospital, 325th Hospital Train Presidio, San Francisco, California.

Harper Wright Jr., Lt. (J.G.), is now at Dispensary A., Naval Air Station, Memphis, Tennessee. He is from Oklahoma City.

Latest address for *Newton C. Smith, Lt.*, is U.S.S. Mountrail, APO 213, c/o Postmaster, San Francisco.

ARMY TO RE-EVALUATE AND RE-ASSIGN RESERVES

On April 1 the army announces through its respective state military districts that reservists, both enlisted men and officers, would be physically re-evaluated between April 1 and June 30. In Oklahoma, the Oklahoma military district reports that this will mean approximately 7000 men will have to be physicially examined.

In addition to the physicial examination, each reservist will be asked to fill out a questionnaire pertaining to dependency, business, occupation and whether or not subsequent call to military duty will be an undue hardship.

Medical corps reserve officers will receive their physical examinations at army installations at any time during the April 1 to June 30 period.

Medical Corps Reserve Officers to Do Physical Examinations

To handle the physical examinations, all reserve army medical corps officers, whether active or inactive, are being contacted to ascertain if they will voluntarily participate in the program. If sufficient volunteers are not secured, it will be necessary that a certain number of reserve medical corps officers will have to be called to duty on an extended active duty basis.

Reserve medical corps officers have been given four methods whereby they can assist in the physical examination program. These are as follows:

1. Order Medical and Dental Corps reservists, with their consent, to short periods of active duty (not over 15 days). Organize them into traveling teams to cover certain parts of the state.

2. Order Medical and Dental Corps reservists to Armories to conduct examinations as holiday or weekend training (two days).

3. Utilize Medical and Dental Corps reservists to perform examinations at training assemblies at Armories at night.

4. Have Medical and Dental Corps reservists set specific office hours in evenings when reservists may call for examinations. This will be on inactive status for the purpose of earning retirement points.

Reservists Who Do Not Qualify Would Be Discharged

Reservists who do not meet the minimum physical requirements or who fail to meet the regulations which have been established concerning availability under the other three facts to be considered will be discharged unless they are willing to waive their rights and accept immediate active duty.

This action of the army in attempting to revitalize its reserve program by ascertaining the reservists who can serve if called, is a forward step which it would seem wise for all branches of the service to take.

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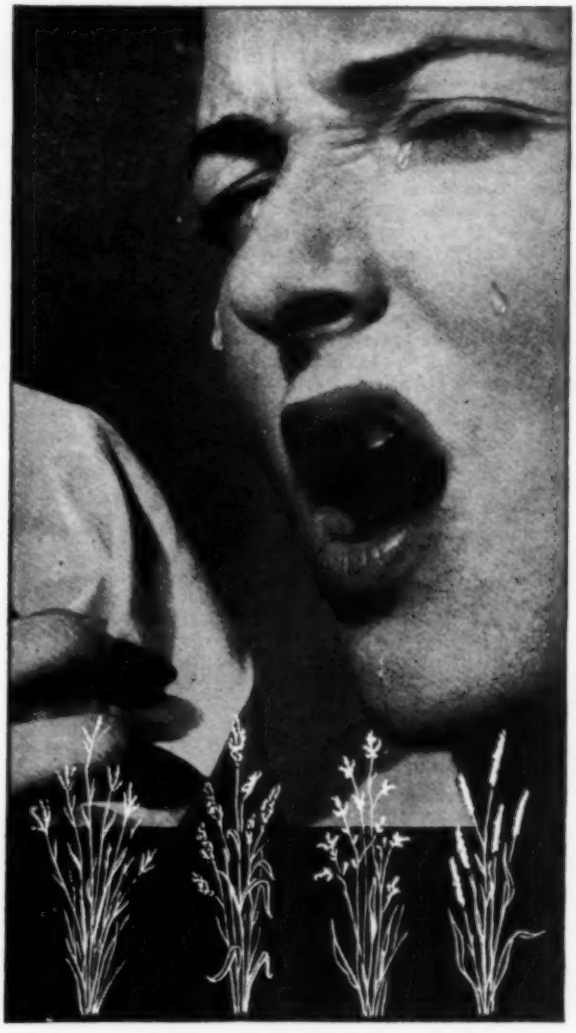

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BOOK REVIEWS

PIONEER DOCTOR. Lewis J. Moorman, M.D. University of Oklahoma Press. 1951.

We have just finished reading a new book, *Pioneer Doctor*; it is excellent. Fashioned in the same pattern as "Pa" Hertzler's "Horse and Buggy Doctor", it is an exciting and revealing story of a great man who has lived Medicine as it was, and as it is.

Dr. Lewis J. Moorman, the author, has presented in his newest book a fascinating autobiography, a profound text on medical philosophy, a thorough(though synoptic) history of tuberculosis, and a searching enquiry into the practice of medicine in its relationship to mankind — all in one volume.

The humor, the heartaches, the fun, the tragedy, the failures, the triumphs of a half-century practising medicine are all recorded honestly and entertainingly. From the turn of this century to the present, we are carried through the "horse-and-buggy" type of medicine to the present. The changes in medical practice are correlated to the changes in modern life, and the contrasts are aptly high-lighted.

We have no criticism of this volume, which stamps this review as inferior, by certain standards. However, if anyone wants to read a thoroughly satisfying book, which includes a penetrating insight into classical research and study, blended with a big, sympathetic heart suffused with a love of humanics and medicine, we strongly recommend, and urge, that you read this book. You will enjoy it; you will long remember *Pioneer Doctor.* — Vincent T. Williams, M.D., Editor, Jackson County Medical Bulletin, Kansas City.

PARACELSUS, MAGIC INTO SCIENCE. Henry M. Pachter. Henry Schuman, New York. 1951. $4.00.

All who have a normal curiosity about the origins of modern medicine, including the difficult transition from alchemy to chemotherapy and the movement from magic to neuropsychiatry should read this story of the sensitive, prescient, arrogant, paradoxial, enigmatic, iconoclastic, incredulous, peripatetic Paracelsus (1493-1541). Exhibiting the evidence of exhaustive research, the author of this intriguing biography carries us over the ground covered by the restless spirit of his erratic subject and reports his multifaceted interests and his contacts with the great and the small of his time. The operations of his inquiring mind in search of truth; the trend of his investigative endeavors; his socio-economic ups and downs; his impetuous professional controversies; his remarkable cures; his political episodes; his frailties and follies and his unfathomable religious faiths often changing with his worldly fortunes are skillfully discussed. His voluminous writings are listed and discussed and their influence noted. Most of them were posthumously published, bringing a rising recognition of the importance of his teachings preparing the way for revealed truths, many of which may be traced to the influence of his empirical observations and prophetic concepts.

He decried the domination of Galinic teachings, burned Avicenna, spurned the past and planted new guideposts for the future. He represented the incarnation of the renaissance. Apparently he sensed the dawning light but unfortunately, he died two years before Copernicus "removed the earth from the center of cosmology" and Vesalius forever removed the previously unquestioned authority of Galen from the realm of anatomy. His self-conceived epitaph reads as follows: "Here lies Philip Theophrastus the famous doctor of medicine who cured wounds, leprosy, gout, dropsy, and other incurable diseases of the body with wonderful knowledge and who gave his goods to be divided and distributed among the poor. In the year 1541 on the 24th day of September he exchanged life for death To the living peace, to the entombed eternal rest."

This brief review suggests that the book must be read to be understood and appreciated.—Lewis J. Moorman, M.D.

LADDER OF LIGHT. The Meaning of the Beatitudes. Harold Blake Walker. New York, London, Glasgow, Fleming H. Revell Company. 1951. Price $2.25.

Here is a man's book by a man's man with a man's religion. To those who wonder why a book on the religion of Christ should be reviewed in a medical journal, it may be said that it seems most appropriate since the good physician, whether he realizes it or not, is constantly practicing the principles of Christ's teachings. Furthermore, those who question are referred to the remarkable book, *Medicine in the Bible.*[1]

To be appreciated the *Ladder of Light* must be read. Therefore, the purpose of this brief notice is to bring the book to the attention of physicians with the hope that many of them are not too occupied with "penthouse prosperity" to find profit in religion and to prescribe this comforting discussion of the sermon on the Mount to their patients who may be faltering at the foot of the ladder.

Regardless of what the physician may think of religion or what his church may be, he must know that spiritual satisfactions enhance favorable physiological functions. This little book in his hands may enlighten his approach to many of his patients' problems. If placed in the hands of the sick who are consciously or unconsciously seeking light, it may place them on both the spiritual and the physiological ladder. How helpful and how healthful may be the potential awareness of Divinity and the sense of peace inherent in the *Ladder of Light.*—Lewis J. Moorman, M.D.

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Head Pain as a Diagnostic Lead

Frequently the presence of head pain is overlooked. The physician learns of it only if he has made an effort to elicit the information. Since the etiology of the pain is the basis of rational management, the patient should be warned against taking medication before diagnosis is made.

Friedman[1] deplores the tendency to call any chronic recurring headache migraine. Careful history-taking and full physical and neurological examinations are essential for accurate diagnosis. A good starting point is a description of the headache — its character, laterality, frequency and intensity.[2]

The following chart gives briefly the primary diagnostic leads and treatment for the most common types of headache.

Etiology of Headache	Primary Diagnostic Data	Primary Therapy
Inflammatory e.g., Meningitis Abscess	Inflammation of intracranial structures; fever; leucocytosis; bacteriologic diag.	Specific: sulfonamides and antibiotics. Symptomatic: analgesics.
Tumor	Pain varies as spinal press. changes; skull X-ray.	Specific: surgery. Symptomatic, analgesics &/or hypnotics.
Sinusitis	Sinus congestion and infection; cloudy X-ray.	Specific: antibiotics and drainage. Symptomatic: analgesics.
Hypertensive	Hypertension present but pain not related to b. p. level; Dihydroergotamine. relieves pain.	General hypertension therapy; sedation. Symptomatic: analgesics.
Migraine & other vascular headaches	Headache: recurrent, intense, throbbing. No organic causation; migraine in family; patient: energetic, perfectionist. Visual prodromata; g-i. upset during headache.	To abort attack: oral ergotamine plus caffeine. General: adjustment to minimize nervous stress.

Data here tabulated is from: Wolf, G., Jr.,[3] and Friedman, A. P.[4]

Cecil[5] ranks vascular headaches, e.g., migraine and tension headaches, as the most commonly encountered of all. Because of their functional nature and usual recurrence at frequent intervals, they present a long-term therapeutic problem.

Therapy is conducted along two lines:

1) Psychotherapy to reduce the frequency of attacks. This consists mainly of advice on emotional adjustment to stressful situations and guidance toward a good balance between work and relaxation.

2) Treatment of the distressing attack to prevent the usual period of incapacitation. Many investigators have reported that ergotamine preparations are effective for relief of the acute migraine attack in 80% of cases.[1,6] The drug is given immediately when an attack is approaching and dosage adjusted to the needs of the individual.

1. Friedman, A. P. and von Storch, T.: 99th A.M.A. Session, June 1950. 2. Butler, S. and Hall, F.: M. Clin. N. Amer., p. 1439 (Sept.) 1949. 3. Wolf, G., Jr.: M. J. 34:25, 1951. 4. Friedman, A. P. and Conn, H. T.: Current Therapy, 1950, p. 563; Saunders Co., Phila. 5. Cecil, R. L.: A Textbook of Medicine, ed. 7, 1948, p. 1483; Saunders Co., Phila. 6. Horton, B. et al: Staff Meet. of Mayo Clinic 20:241, 1945.

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MEDICAL ABSTRACTS

ORAL STEROID MEDICATION IN RHEUMATOID ARTHRITIS — Freeman H., Pincus, G., Bachrach, S., Johnson, C. W., McCabe, G. E., and MacGilpin, H. H.; Worcester Foundation for Exp. Biol., Shrewsbury, Mass., J. Clin. Endocrin., 10:1523, December, 1950.

Sixty-four patients with "definite rheumatoid arthritis" were treated with pregneninolone orally in doses about 500 Mgm daily over periods ranging from 2-32 weeks; 24 patients "experienced striking improvement, 26 minor improvement, 14 no improvement." Many patients relapsed after medication was discontinued. The longer the drug was given, apparently the more sustained the improvement. Minor toxic reactions were occasional polyuria, fullness of breasts, belching of gas. Diabetes mellitus, which was present along with the rheumatoid arthritis in two of the patients, was apparently not aggravated by treatment.—Robert M. Becker, M.D.

ACTH (ADRENO CORTICO TROPHIC HORMONE) IN THE TREATMENT OF ERYTHROBLASTOSIS FOETALIS. — Simpson, J. W., Akeroyd, J. H., Swift, F. L., Geppert, L. J., Brooke Army Hospital, Fort Sam Houston, Texas, U. S. Armed Forces Medical Jour. 2:207, February, 1951.

Following some favorable reports on the use of ACTH or Cortisone in treatment of acquired hemolytic anemias where antibodies are involved, the authors tried ACTH in two cases of moderately severe erythroblastosis foetalis, another type of acquired hemolytic anemia involving anti-Rh antibodies. Keeping in mind the spontaneous recovery in some cases but generally a 90 per cent mortality in severe erythroblastosis foetalis, the authors felt that the marked improvement clinically in their two newborn infants was associated with the ACTH therapy. They recommend a dosage of ACTH (or cortisone could be tried) of 25 Mgm total daily dose divided into four equal doses at six hour intervals; the drug was given for five to seven days.—Robert M. Becker, M.D.

ANALYSIS OF FATAL CASES OF DIPHTHERIA — Edwards, W. M., Lt. Col., M. C., U.S.A., Tripler Hosp., Honolulu. U. S. Armed Forces Medical Journal 2:217, February, 1951.

One hunderd fatal cases of diphtheria are analyzed, with incidence of the disease six times greater among troops outside the United States than in the United States. Only 18 of the 100 cases were correctly diagnosed on hospital admission or at time of original work-up. Delay in diagnosis and thus in specific antitoxin treatment was considered to be a large factor in these fatalities. Most of the patients were originally diagnosed as tonsillitis, peri-tonsillar abscess or Vincent's infection. Membranes were present in all cases, most of them (93) were pharyngeal, three as cutaneous diphtheria secondary to wounds or abrasions, two as nasopharyngeal and two as laryngeal and tracheo-bronchial. Commonest presenting symptoms were fever and sore throat, fevers, frequently over 103 degrees. Generally the membranes were foul smelling, adherent and gray-white, though some were black and green. Onset of peripheral nerve involvement varied from 5-40 days after initial symptoms, average being about 20 days. All blood cultures, when taken, were negative. Initial naso pharyngeal cultures were positive in 59 cases, negative in 38; initial smears were positive in 42, negative in 38. Abnormal electrocardiograms were found in 45 of 50 in whom EKG studies were made, no specific changes

predominating unless it might be T wave changes noted in 39 of the 45 patients. Leucocyte counts were done on 64 patients, were normal in 21; eight patients had counts over 20,000; the rest between 10-20,000. Albuminuria of one-plus to four-plus was found in 52 of 83 patients. *Treatment* — Diphtheria antitoxin was given to 83 of the 100 patients in doses of 20,000-400,000 units. Penicillin in adequate amounts was given to 83 patients, was found to have no favorable effect on the course of the diphtheria, might only be helpful in secondary infections. In some instances diphtheria developed while the patient was on adequate penicillin. Adequate antitoxin should be given early — 100,000 units in the first 6.5 days.—Robert M. Becker, M.D.

THE EFFECT OF STEROID HORMONES IN RHEUMATIC HEART DISEASE. — Brewer, Timothy F., St. Francis Hosp., Hartford, Conn., Jour. Clin. Endocrinology 11:146, Feb. 1951.

Using massive doses of progesterone and estradiol, excellent results are reported in 64 patients, 20 with typical polyarthritis, 10 with rheumatic carditis and 34 with both. "Treatment consisted of single, simultaneous IM injections of 500 Mgm of progesterone and 33.3 Mgm of estradiol benzoate, the two steroid solutions (in oil) being mixed in one syringe and half the material injected into each buttock. The intervals between doses were four to eight days. For children younger than 15 years, one-half this dosage or less was employed." 77 per cent showed a response consisting of temporary arrest of all activity. "Within three to eight hours after the injection, there is symptomatic and objective improvement in the inflamed joints, and all arthritic activity disappears within 48 hours." Temperature response is described as dramatic. "Our procedure has been to repeat the injection when there is a rising temperature, increased heart rate or other sign of recrudescence." Best results are described as following repeated injections at four to eight day intervals with from two to nine injections needed during any one attack. Relapse rate is not noted. Side reactions are euphoria, drowsiness, some mammary gland enlargement and uterine withdrawal bleeding, but are described as minimal.—Robert M. Becker, M.D.

ONE HUNDRED CASES OF CARCINOMA OF THE PANCREAS: A CLINICAL AND ROENTGENOLOGICAL ANALYSIS. Broadbent, T. R., and Kerman, H. D., Dept. Surgery and Radiol., Duke Univ. School Med., Durham, N. C., Gastroenterol., 17:163, February, 1951.

The only hope for patients with carcinoma of the pancreas is early diagnosis with early resection. The authors have analyzed 100 cases in a worthy effort to stimulate earlier recognition of this disease. In their analysis they found the following: 1. Symptoms were present for an average of 7.5 months before hospitalization. 2. Predominant symptom was pain in upper abdomen; epigastrium, right and left upper quadrants; pain was present in 75 cases. 3. Jaundice was noted in only 49 patients. 4. The carcinoma was palpable as a mass in 46, 45 had marked weight loss and 43 had abdominal tenderness. 5. X-ray studies with barium examination of the upper G.I. tract revealed abnormal findings in 78.9 per cent of cases, diagnostic in 53.9 per cent. The X-ray changes were displacement of stomach or duodenum by the mass or mucosal changes in the stomach from infringement or invasion.—Robert M. Becker, M.D.

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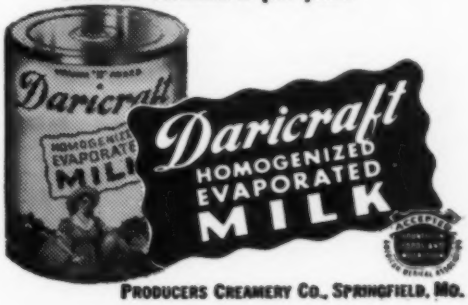

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RESOLUTION

WHEREAS, Edward N. Smith, M.D., Clinical Professor of Obstetrics, having served on the faculty since February 1, 1940; beginning as an Associate Professor and serving as Vice- Chairman of the Department of Obstetrics from February 1, 1948 to July 1, 1950; and having served as Instructor of a Postgraduate Course in Obstetrics for the physicians of the State of Oklahoma under the auspices of the Oklahoma State Medical Association from April 1, 1938 to February 1, 1940; gave of his best for the relief of the suffering of others, and set an example which will long continue to influence and inspire us, died on February 26, 1951, and

WHEREAS, by the death of Dr. Smith, the Medical Profession, the State, the Faculty of the Oklahoma University School of Medicine, and those who have depended upon him for help and counsel have a great loss, and

WHEREAS, we, the members of the Faculty of the Oklahoma School of Medicine, feel a keen sense of loss, both personal and professional, in the passing of our fellow member and desire to convey to the world our appreciation of his devoted service.

THEREFORE, BE IT RESOLVED, that we express to his relatives our sincere sympathy and our desire to share their great loss, and

BE IT FURTHER RESOLVED, that a copy of these resolutions be sent to the relatives of Dr. Smith, a copy spread on the records of the faculty, and a copy sent to the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION.

s/ Earl D. McBride, M.D.
COMMITTEE ON RESOLUTIONS
Mark Everett
Dean

February 28, 1951
Approved by Faculty, February 28, 1951

RESOLUTION

WHEREAS, the Supreme Master of mankind in his infinite wisdom and mercy has seen fit to call from among us our beloved colleague, Dr. John R. Walker, who for many years labored faithfully in his profession for the alleviation of the ills of suffering humanity, and who also gave so freely of his time and efforts for the betterment of his community, and

WHEREAS, by the passing of Dr. Walker, the entire medical profession and the community at large has suffered a great loss, and there has been left a place vacant that cannot be filled, not only in the medical profession, but in the hearts of all who knew and loved him, and

WHEREAS, the Garfield-Kingfisher County Medical Society has lost a faithful member and those whom he labored for so many years, a faithful and valuable counselor, therefore

BE IT RESOLVED, that we extend to his family our deepest sympathy and assure them of our sincere desire to share with them this burden of loss, and,

BE IT FURTHER RESOLVED, that a copy of these Resolutions be sent to family of Dr. Walker, a copy spread on the minutes of the Garfield-Kingfisher County Medical Society, and a copy sent to the Journal of the Oklahoma State Medical Association.

s/ Resolutions Committee
W. P. Neilson, M.D.
P. W. Hopkins, M.D.
Roscoe C. Baker, M.D.

OBITUARY

W. C. BRYANT, M.D.
1867-1951

W. C. Bryant, M.D., 84 year old widely known northeastern Oklahoma physician, died at the home of a daughter in Muskogee March 9. He had been actively engaged in practice in Choteau until October, 1950 when an operation became necessary and he was never able to resume his work.

He received his medical diploma from the University of Tennessee after working 10 years before going to medical school. On Sept. 26, 1946, the Masonic lodge awarded him a 50 year pin. He was a life member of the Oklahoma State Medical Association.

RESOLUTION

WHEREAS, LeRoy Sadler, M.D., F.A.C.S.; Associate Professor of Gynecology, vice-chairman of the Department of Gynecology, having served on the faculty since September 17, 1935; beginning as instructor in Gynecology; having served his country in Military Service as a Lt. Colonel, Medical Corps, on leave of absence from the faculty from April 14, 1941 to January 1, 1946; gave of his best for the relief of the suffering of others, and set an example which will long continue to influence and inspire us, died on January 17, 1951, and

WHEREAS, by the death of Dr. Sadler, the Medical Profession, the State, the Faculty of the Oklahoma University School of Medicine, and those who have depended upon him for help and counsel have a great loss, and

WHEREAS, we, the members of the Faculty of the Oklahoma School of Medicine, feel a keen sense of loss, both personal and professional in the passing of our fellow member and desire to convey to the world our appreciation of his devoted service.

THEREFORE, BE IT RESOLVED, that we express to his relatives our sincere sympathy and our desire to share their great loss, and

BE IT FURTHER RESOLVED, that a copy of these resolutions be sent to the relatives of Dr. Sadler, a copy spread on the records of the faculty, and a copy sent to the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION.

s/ Earl D. McBride, M.D.
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Gray, L.: J. Clin. Endocrinol. 3:92 (Feb.) 1943.

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U. C. Boon, M.D., Chickasha, receives his 50 Year Pin from OSMA Vice-President, Malcom Phelps, El Reno.

OKLAHOMA FARM BUREAU REQUESTS HEALTH SURVEYS

Mr. John I. Taylor, president of the Oklahoma Farm Bureau, who recently attended the sixth annual Rural Health Conference of the American Medical Association in Memphis, Tennessee, has taken the leadership in the studying of ways and means to hake a pilot study in one or more counties in Oklahoma of all the factors relating to rural and urban health.

A preliminary and informal meeting with officers of the State Medical Association, the State Health Department and Oklahoma A. and M. College has been held to discuss the conducting of such a survey and the counties which will participate. It is anticipated that any survey decided upon cannot be started until late spring or early summer.

The Rural Health Committee of the Association is working with the Farm Bureau and the State Health Department on the project.

MEDICAL SOCIETIES AROUND THE STATE

Lincoln County

Dr. and Mrs. C. W. Robertson, Chandler, entertained the Lincoln County Medical Society and Auxiliary at a dinner in observance of Doctor's Day March 15. Following the dinner, separate meetings were held. Guest speakers for the physicians were W. K. Ishmael, M.D., J. R. Stacy, M.D., J. N. Owen, M.D. and Elias Margo, M.D., all of Oklahoma City. Arthritis was the program topic for the medical society.

Kay-Noble

Members of the Kay-Noble County County Society met recently at the Ponca City Country Club for a Doctor's Day dinner given by the Auxiliary to honor the doctors.

Cleveland County

Carl Steen, M.D., superintendent of the State Epileptic Hospital at Pauls Valley, was guest speaker at a recent meeting of the Cleveland County Medical Society.

Canadian County

Auxiliary and physicians held a joint meeting at the Oxford Cafe in El Reno when George H. Garrison, M.D., Oklahoma City, spoke on the White House Conference on Children and Youth. Malcom Phelps, M.D., El Reno, also told the group about current state legislation affecting the field of medicine.

Grady County

Thirty-six members of the Grady County Medical Society and their wives were present when a 50 year pin was presented to U. C. Boon, M.D., Chickasha. Malcom Phelps, M.D., El Reno, made the presentation to Doctor Boon, who is an 1898 graduate of Tulane University.

MEDICAL SCHOOL CLASS MAY BE INCREASED

At a recent meeting of legislative and medical leaders with Governor Johnston Murray, the Governor's approval was secured for increasing appropriations for the medical school to take care of an entering class of from 100 to 120 if such monies could be secured without raising taxes.

Legislative leaders are of the opinion that such monies can be found in the amount of approximately $200,000 each year of the biennium.

Physicians are reminded that it might be well to ask your Senator or Representative when you see him if he feels that 20 to 40 additional medical school students are equal to approximately 10 miles of paved highway, which obviously amounts to approximately $200,000.

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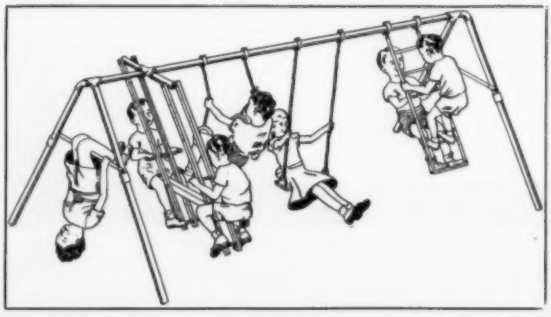

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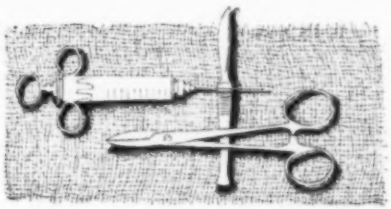

The Surgeon is no longer hampered in his work by the fear of uncontrollable postoperative infections, thanks in large measure to the sulfonamides and the antibiotics. Aureomycin is indicated for preparation of the gut before enteric surgery. The high concentrations attained by aureomycin in the bile make it of particular value in operations on the infected biliary tract. Its efficacy against streptococci and staphylococci, which are becoming increasingly resistant to penicillin, renders its use advisable in surgical conditions where these organisms are actual or potential invaders.

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HAVE YOU HEARD?

Ralph Phelan, M.D., Hobart, is one of the first aid instructors for the Lone Wolf Red Cross group.

William H. Coe, M.D., director of the Pittsburgh, McIntosh and Latimer county health departments, spoke on public health preventive measures at a recent McAlester Rotary Club meeting.

Lea A. Riely, M.D., Oklahoma City's only physician listed in the city directory for 1900-1901 was honored at the Chamber of Commerce luncheon celebrating the 50th anniversary of the establishment of the T. E. Braniff insurance company.

McLain Rogers, M.D., Clinton, spoke on socialized medicine at the fifth district nurses association in Hobart.

Richard Loy, M.D., Pawhuska, told Kiwanis Club members about the walking blood bank at a recent meeting when he was speaker.

W. J. White, M.D., formerly of Hampton, Ark., is now asosciated with *Ralph Martin, M.D.*, in Sand Springs.

Divonis Worten, M.D., Pawhuska, recently presented the Pawhuska school system with a quonset hut for housing the school buses of the district.

Ralph A. Smith, M.D., Violet Sturgeon, M.D., E. T. Cook, M.D., Malcom Phelps, M.D. and *Jack Glasgow, M.D.*, were among those attending the American Academy of General Practice meeting in San Francisco in March.

Paul Champlin, M.D., Enid, and Mrs. Champlin have returned from a trip to Miami, Florida where they visited Mrs. Champlin's father.

W. K. Haynie, M.D., Durant, has been appointed to the state Fish and Game Commission.

ANNOUNCEMENTS

OKLAHOMA STATE MEDICAL ASSOCIATION. 58th Annual Meeting, Mayo Hotel, Tulsa, Oklahoma, May 21, 22, 23, 1951. House of Delegates May 20.

AMERICAN MEDICAL ASSOCIATION. June 11-15, 1951. Reservations for hotel rooms should be sent to the Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, N. J. Give five hotel choices.

AMERICAN PHYSICIANS ART ASSOCIATION. Physicians are invited to participate in the exhibit of this association at the A.M.A. For further information write F. H. Redewill, M.D., Sect'y, American Physicians Art Association, 760 Market Street, San Francisco 2, Calif.

AMERICAN COLLEGE OF CHEST PHYSICIANS. Ambassador Hotel, Atlantic City, New Jersey, June 7 to 10, 1951. Robert M. Shepard, M.D., Tulsa, is Governor of the College for Oklahoma.

INTERNATIONAL POST-GRADUATE MEDICAL ASSEMBLY OF SOUTHWEST TEXAS. Annual Meeting, San Antonio, Texas, Municipal Auditorium, Jan. 22-24, 1952.

MICHAEL REESE HOSPITAL, Postgraduate School, Chicago, offers special rates to members of the same county or state medical associations for their postgraduate courses during the spring and summer.

KANSAS CITY SOUTHWEST CLINICAL SOCIETY. Announces merit award for graduates in medicine serving internships or residencies in this area. Awards will be given for the three best papers submitted.

AMERICAN GYNECOLOGICAL SOCIETY. Waldorf-Astoria Hotel, New York. May 7-9, 1951.

OKLAHOMA PHYSICIANS VETERANS ASSOCIATION. Annual meeting May 20, Mayo Hotel. Business meeting will be preceded by a social hour at 5:00 p.m. Officers are Paul Gallaher, M.D., Shawnee, President; Johnny A. Blue, M.D., Oklahoma City, secretary-treasurer; and Shade D. Neely, M.D., Muskogee, president-elect.

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Mrs. Eva M. Fry
708 N. Main Street
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Phone 290

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Mrs. Lela Cullen
1317 10th St.
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Phone 1174-J

Mrs. Ethel Holcomb
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Mrs. Winona Smith
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Oklahoma City, Okla.
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Mrs. Jo Ann Myers
RFD No. 10, Box 154C
Oklahoma City, Oklahoma
Phone 99-3746

OFFICERS OF COUNTY SOCIETIES, 1951

COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Alfalfa	Forrest Hale, Cherokee	Jack Parsons, Cherokee	Last Tues. each second month
Atoka-Bryan-Coal	B. B. Coker, Durant	W. A. Hyde, Durant	
Beckham	H. K. Speed, Sayre	V. R. Payne, Cheyenne	Second Tuesday
Blaine	H. R. Anderson, Watonga	Virginia Curtin, Watonga	Second Thursday
Caddo	Edward T. Inman, Apache	E. T. Cook, Jr., Anadarko	
Canadian	C. Riley Strong, El Reno	Francis W. Hollingsworth, El Reno	
Carter-Love-Marshall	James T. Godfrey, Jr., Ardmore	Vance Malone, Jr., Ardmore	Second Tuesday
Cherokee	R. K. McIntosh, Jr., Tahlequah	H. A. Masters, Tahlequah	First Tuesday
Choctaw-McCurtain-Pushmataha			
Cleveland	M. M. Wickham, Norman	O. R. Gregg, Norman	Fourth Thursday
Comanche-Cotton (amalgamation pending)	Fred T. Fox, Lawton	Joseph N. Mitchell, Lawton	Second Tuesday
Creek	E. W. King, Bristow	W. M. Hindman, Sapulpa	Second Tuesday
Custer	W. C. Tisdal, Clinton	Ralph Simon, Clinton	Third Thursday
East Central Oklahoma	J. T. Woodburn, Muskogee	Virgil D. Mathews, Muskogee	Second Monday
Garfield-Kingfisher	Raymond D. Jacobs, Enid	Roscoe C. Baker, Enid	Fourth Thursday
Garvin	Ray E. Spence, Maysville	Hugh H. Monroe, Pauls Valley	Wed. before third Thursday
Grady	H. H. Macumber, Chickasha	J. J. Swan, Chickasha	Second Thursday
Grant	I. V. Hardy, Medford	F. P. Robinson, Pond Creek	
Greer	F. W. Coggins, Granite	J. B. Hollis, Mangum	Second Monday
Haskell-LeFlore	N. K. Williams, McCurtain	G. M. Hogaboom, Heavener	First Wednesday
Hughes	V. W. Pryor, Holdenville	Gene Slagel, Holdenville	Third Tuesday
Jackson	A. W. Starkey, Altus	Fred W. Becker, Altus	Last Monday
Jefferson	Harold A. Rosier, Waurika	O. J. Hagg, Waurika	
Kay-Noble	W. O. Armstrong, Ponca City	Thomas C. Glasscock, Ponca City C. D. Northcutt, Ponca City Executive Secretary	Second Thursday
Kiowa-Washita	Aubrey E. Stowers, Sentinel	James F. McMurry, Sentinel	First Wednesday
Lincoln	Ross P. Demas, Stroud	Carl H. Bailey, Stroud	Third Tuesday
Logan	L. A. Hahn, Guthrie	John Souter, Guthrie	
Murray			
McClain	I. N. Kolb, Blanchard	W. C. McCurdy, Jr., Purcell	
Northwestern	M. H. Newman, Shattuck	Myron C. England, Woodward	2nd. Thurs. Even Mos.
Okfuskee	M. L. Whitney, Okemah	W. P. Jenkins, Okemah	2nd Mon. ea. Mo.
Oklahoma	Floyd Moorman, Oklahoma City	P. K. Graening, Oklahoma City Mrs. Muriel Waller, Exec. Secy.	Fourth Tuesday
Okmulgee	John Cotteral, Henryetta	S. B. Leslie, Okmulgee	Second Monday
Osage	Vincent Mazzarella, Hominy	Robert E. Dean, Fairfax	Third Thursday
Ottawa-Craig	Don H. Olson, Vinita	J. E. Highland, Miami	Third Thurs. Ea. Mo.
Payne-Pawnee	James D. Martin, Cushing	E. M. Thorp, Cushing	Third Thurs.
Pittsburg	Thurman Shuller, McAlester	H. C. Wheeler, McAlester	Third Friday
Pontotoc	C. F. Needham, Ada	W. T. Gill, Ada	First and Third Wed.
Pottawatomie	Leon D. Combs, Shawnee	Clinton Gallaher, Shawnee	Third Wednesday
Rogers-Mayes	E. H. Werling, Pryor	P. S. Anderson, Claremore	Third Wednesday
Seminole	A. N. Deaton, Wewoka	Mack Shanholtz, Wewoka	Third Wednesday
Stephens	Richard A. Ellis, Duncan	W. A. Heflin, Duncan	
Texas-Cimarron	L. G. Blackmer, Hooker	J. F. Morgan, Guymon	
Tillman	F. P. Fry, Frederick	O. G. Bacon, Frederick	
Tulsa	W. A. Showman, Tulsa	Harold J. Black, Tulsa Jack Spears, Exec. Secy.	Second and Fourth Monday
Washington-Nowata	R. J. Bogan, Bartlesville	F. C. Lawrence, Bartlesville	Second Wednesday Odd Months
Woods	Kenneth L. Peacher, Waynoka	W. F. LaFon, Alva	Second Wednesday Odd Months

STATE BOARD OF HEALTH

Grady F. Mathews, M.D., Commisioner, Oklahoma City.

(Number after name indicates years to be served.)

Arnold Schwallisch, Engineer, El Reno (9); M. L. Whitney, M.D., Okemah (8); C. R. Rountree, M.D., Oklahoma City (7); Bert Loy, Hospital Administrator, Oklahoma City (5); A. G. Reed, D.O., Tulsa (4); Charles Ed White, M.D., Muskogee (3); Otto Whiteneck, D.D.S., Enid (2); T. H. McCarley, M.D., McAlester (9); Roy L. Fisher, M.D., Frederick (4).

STATE BOARD OF MEDICAL EXAMINERS

H. C. Weber, M.D., Bartlesville, President; Clinton Gallaher, M.D., Shawnee, Secretary; R. B. Gibson, M.D., Ponca City; Hugh H. Monroe, M.D., Pauls Valley; Everett G. King, M.D., Duncan; O. C. Newman, M.D., Shattuck; and John C. Perry, M.D., Tulsa.